REHABILITATION OF I-95 FROM I-495 TO NORTH OF BRANDYWINE RIVER BRIDGE

PRE-PROPOSAL MEETING FOR CM/GC SERVICES

CHASE CENTER ON THE RIVERFRONT
WILMINGTON, DELAWARE
JULY 22, 2019
9:00 AM

DelDOT
Delaware Department of Transportation

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U.S. Department of Transportation
Federal Highway Administration

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WRA

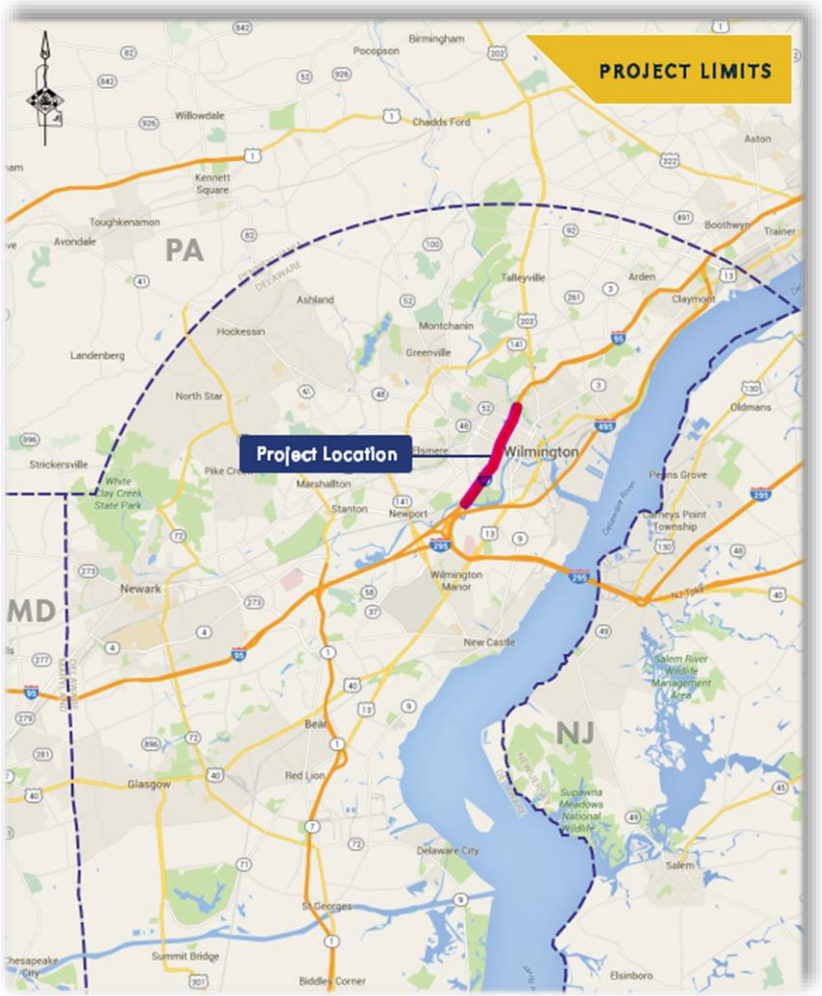
PURPOSE AND NEED

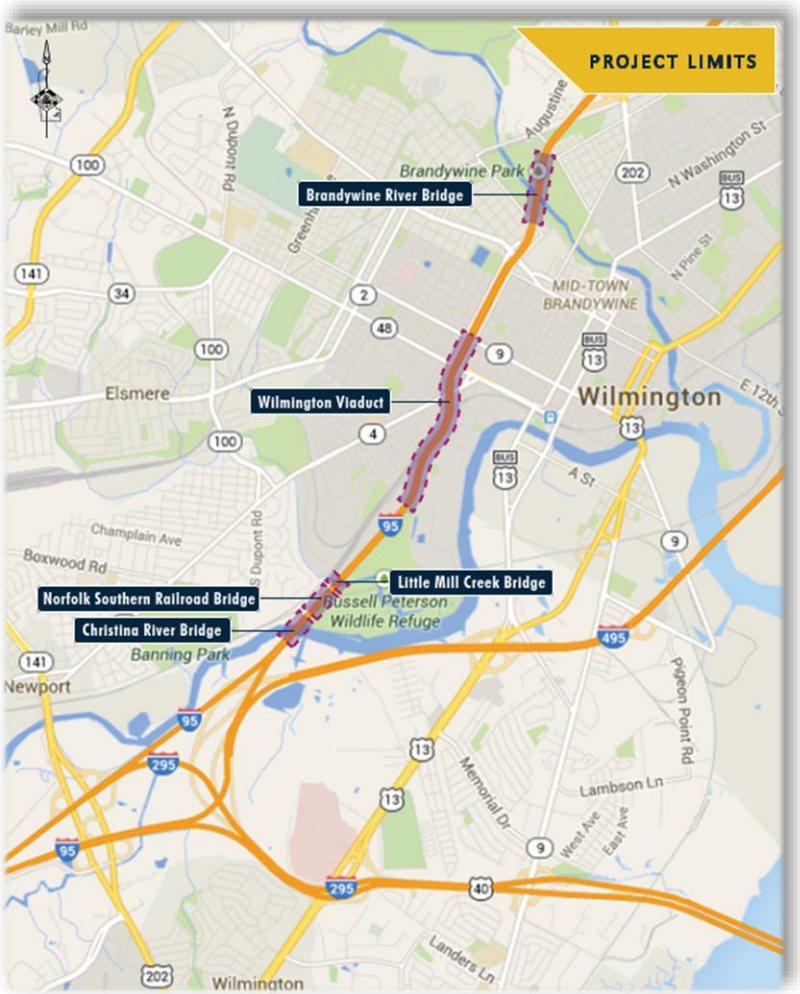
- Maintain and preserve the I-95 Corridor in a state of good repair
- Ensure a 30 year service life extension to avoid more costly and traffic disrupting repairs
- Enhance safety along the I-95 Corridor
- Improve roadway efficiency to lessen traffic congestion
- Implement improvements in the City of Wilmington to lessen traffic congestion

PROJECT OVERVIEW

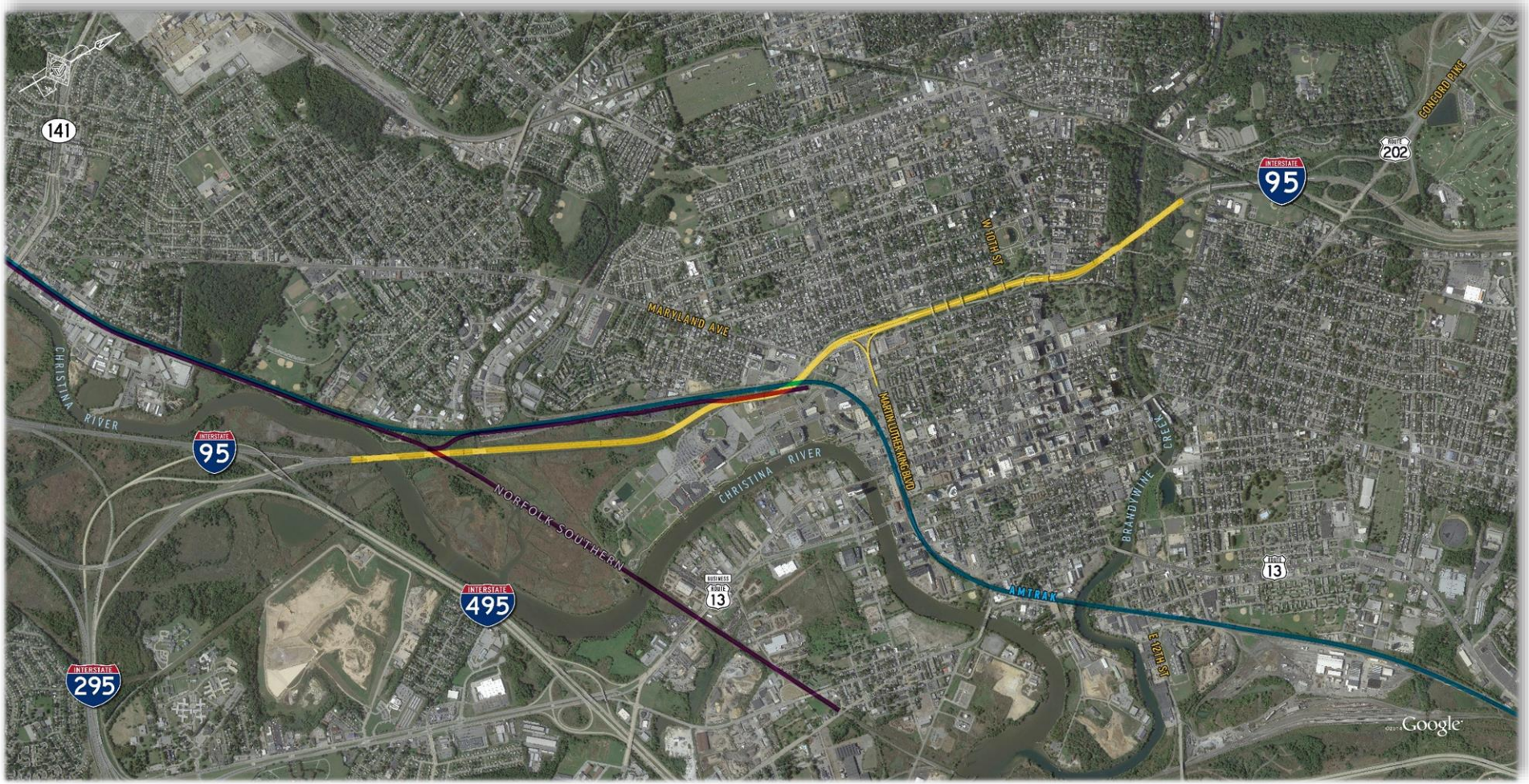
- Extends from I-495 / I-95 split to US 202 (Concord Pike)
- Rehabilitation of 17 bridges (over 2 miles)
- Rehabilitation of over 3 miles of pavement
- Reconstruction of 7 at-grade exit / entrance ramps to I-95

PROJECT LOCATION/LIMITS

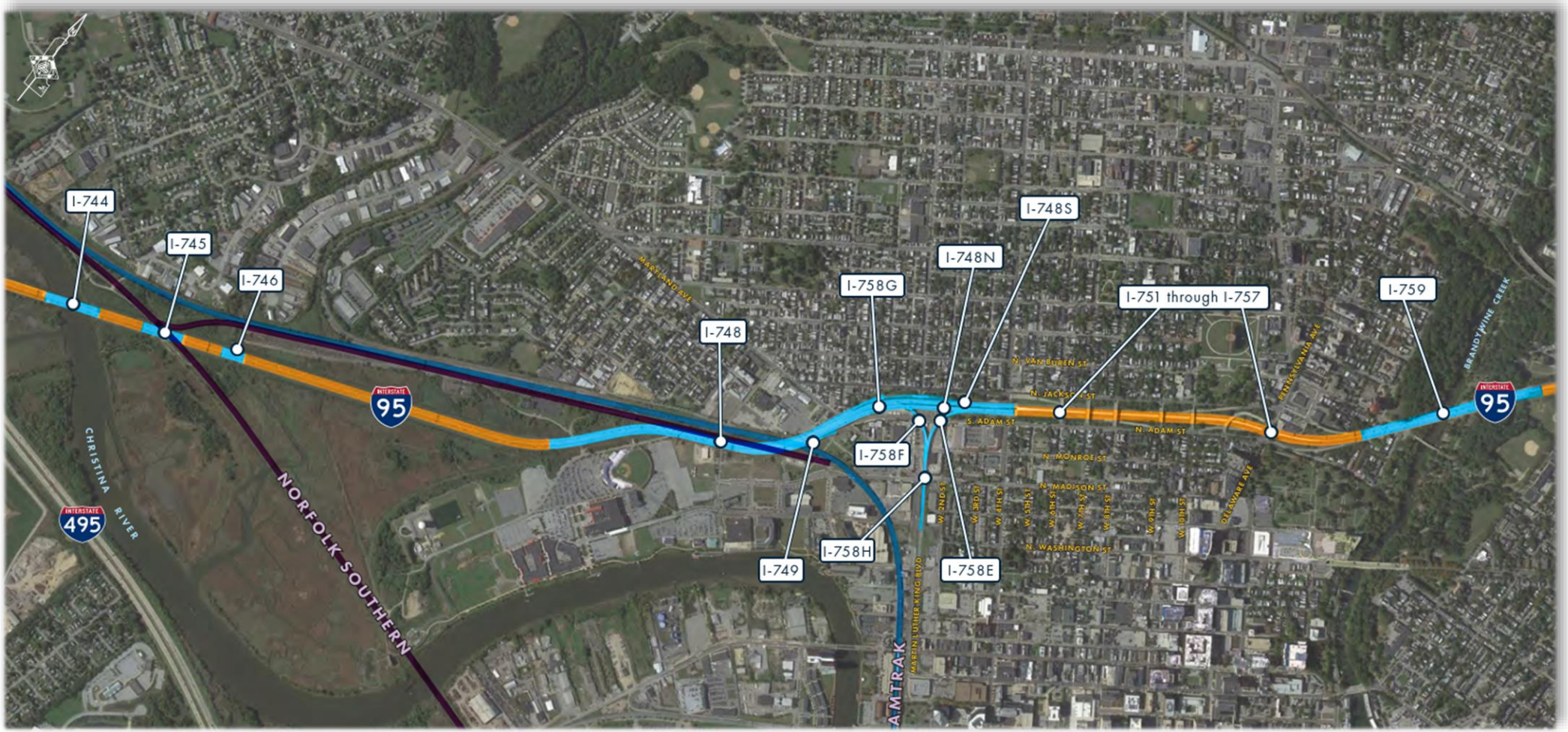




PROJECT AERIAL

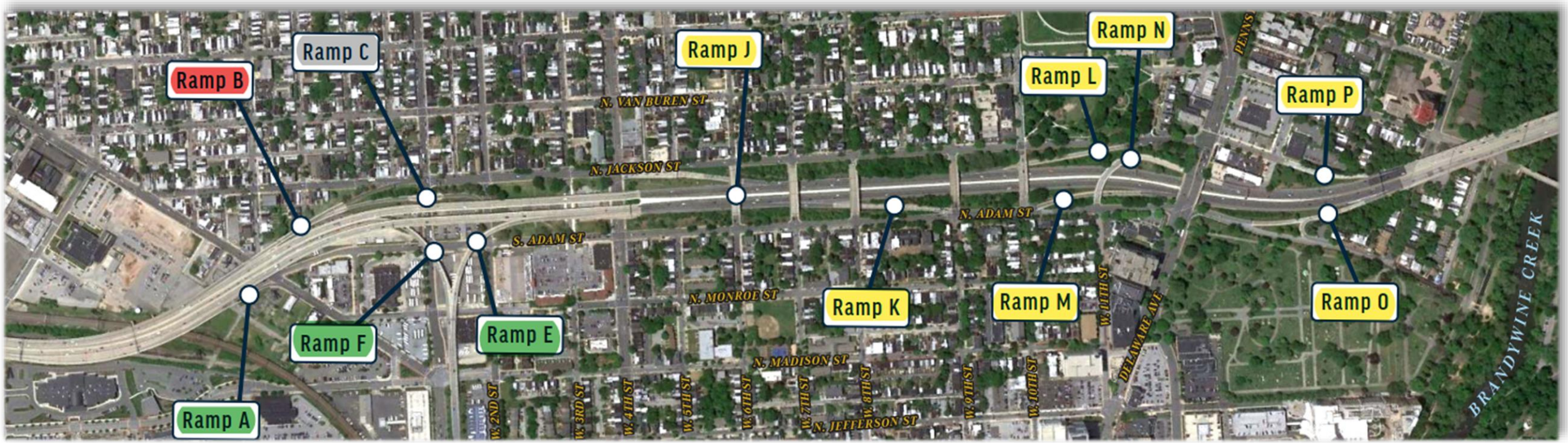


PROJECT AERIAL – 17 BRIDGES



95 Wilmington Corridor Rehabilitation

PROJECT AERIAL – RAMPS



LEGEND

Ramp B = Aerial ramp to be removed from service

Ramp A = Aerial ramp to be rehabilitated

Ramp C = Aerial ramp to be replaced (new Ramp 'D')

Ramp J = At-grade ramp to be reconstructed

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DRONE VIDEO OF PROJECT LIMITS

CM/GC: PROJECT GOALS

- Improve the corridor infrastructure to provide a minimum of 30 years of relatively maintenance free service life.
- Provide extensive public outreach during design and construction.
- Use accelerated construction techniques and other innovative solutions to efficiently meet the Required Project Constraints.

CM/GC: REQUIRED PROJECT CONSTRAINTS

- Utilize long-term single lane closures on I-95 for a maximum of 2 years or better
- Sequence ramp closures to ensure ingress and egress in/out of Wilmington is maintained
- Maintain the project budget
- Align concrete pavement joints with the lane striping
- Align longitudinal joints in the LMC overlays with the lane striping

CM/GC: KEY ISSUES

- Maintain a safe work zone for workers and the travelling public
- Limit the overall traffic impact on City and I-95 commuters
- Initiate timely coordination with Amtrak and Norfolk Southern RRs
- Coordinate with resource agencies (e.g., DNREC, USACE, etc.)
- Maintain coordination with public, businesses, government, etc.
- Optimize CPM schedule to achieve high quality, maximum value, and timely project completion
- Provide the maximum opportunity to use innovative design and construction practices
- Maintain public trust and confidence

PATH FORWARD

- Add e-mail address for all correspondence: dot-ask@state.de.us
- Do not contact any project team member(s) until CM/GC is awarded
- Statement of Qualifications
  - **Due: 27 August 2019 prior to 2:00 PM Local Time**
- Submit Statement of Qualifications to:
  - Contract Administration – RFP CM/GC
    Delaware Department of Transportation
    Administration Building
    800 Bay Road
    Dover, DE 19901
- Finalize Design w/ input from Construction Manager (CM)
  - Re-inspect and test bridges
- Start construction in March 2021 (*estimated*)

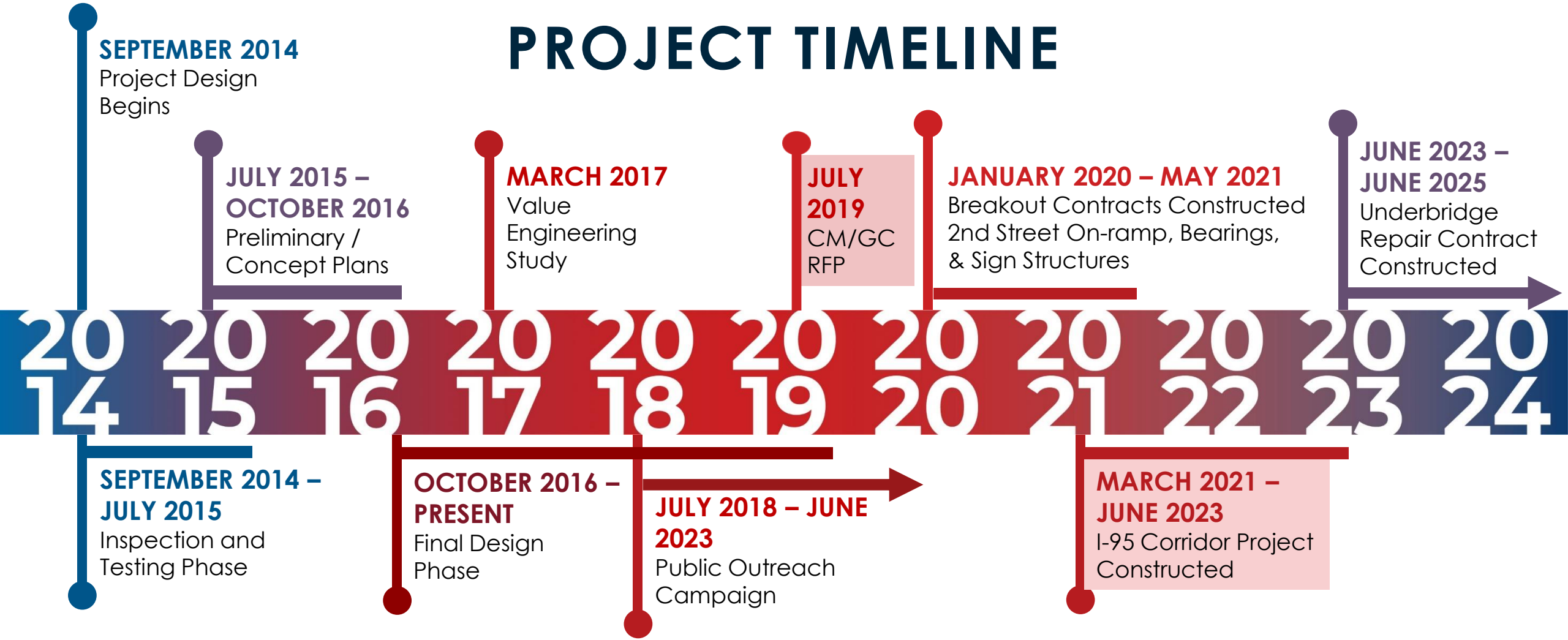
PROJECT HISTORY

I-95 CORRIDOR HISTORY

- 1964: Original construction
- 1978: Widened median, built MLK Blvd Ramps and placed LMC Overlay
- 2001: Maintenance repairs
- 2014: DelDOT initiated the I-95 Corridor Project
- Breakout contracts
  - Cantilever & Overhead Signs (2020)
  - 2nd Street On-ramp Improvements (2020)
  - Bearing Replacements (2020)
  - Substructure Repairs (2023)
- **2021 – 2023: I-95 Corridor Project**

I-95 Wilmington Corridor Rehabilitation

PROJECT TIMELINE



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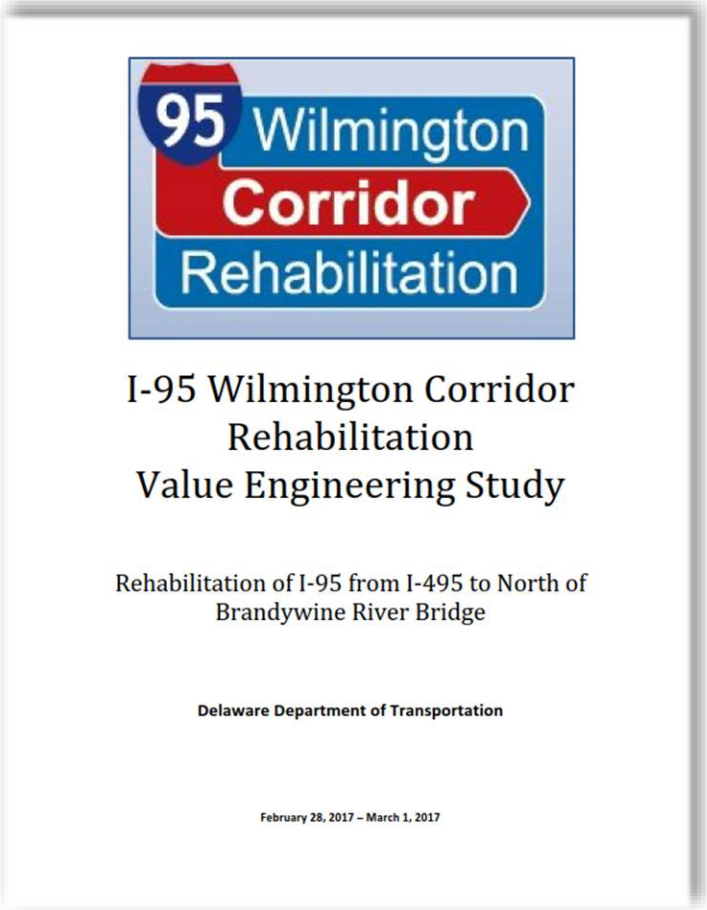
INSPECTION & TESTING PHASE

- 2014/2015 design level inspection completed
  - Detailed hands-on inspection
  - Impact Echo
  - Concrete Cores
    - Compressive Strength
    - Water Soluble Chloride Ions
    - Petrographic and Air Void Analysis
  - Paint adhesion testing
- July 2015 Design Level Inspection Report
  - Repair recommendations
  - Design recommendations
- Future testing
  - Deck
  - Schedule TBD

VALUE ENGINEERING STUDY

- February 28 and March 1, 2017
- Implementation Committee reviewed the recommendations of the VE Committee
- Total approximate cost savings: $56M



CONTRACT DOCUMENTS

- Preliminary Plans – October 2016
- Semi-Final Plans – February 2018
  - Available now on the DelDOT bids website http://bids.delaware.gov/bids_detail.asp?i=5803&DOT=Y
  - Three Volumes (Appendix C in RFP)
- Final Plans – To be developed in conjunction with CM/GC team

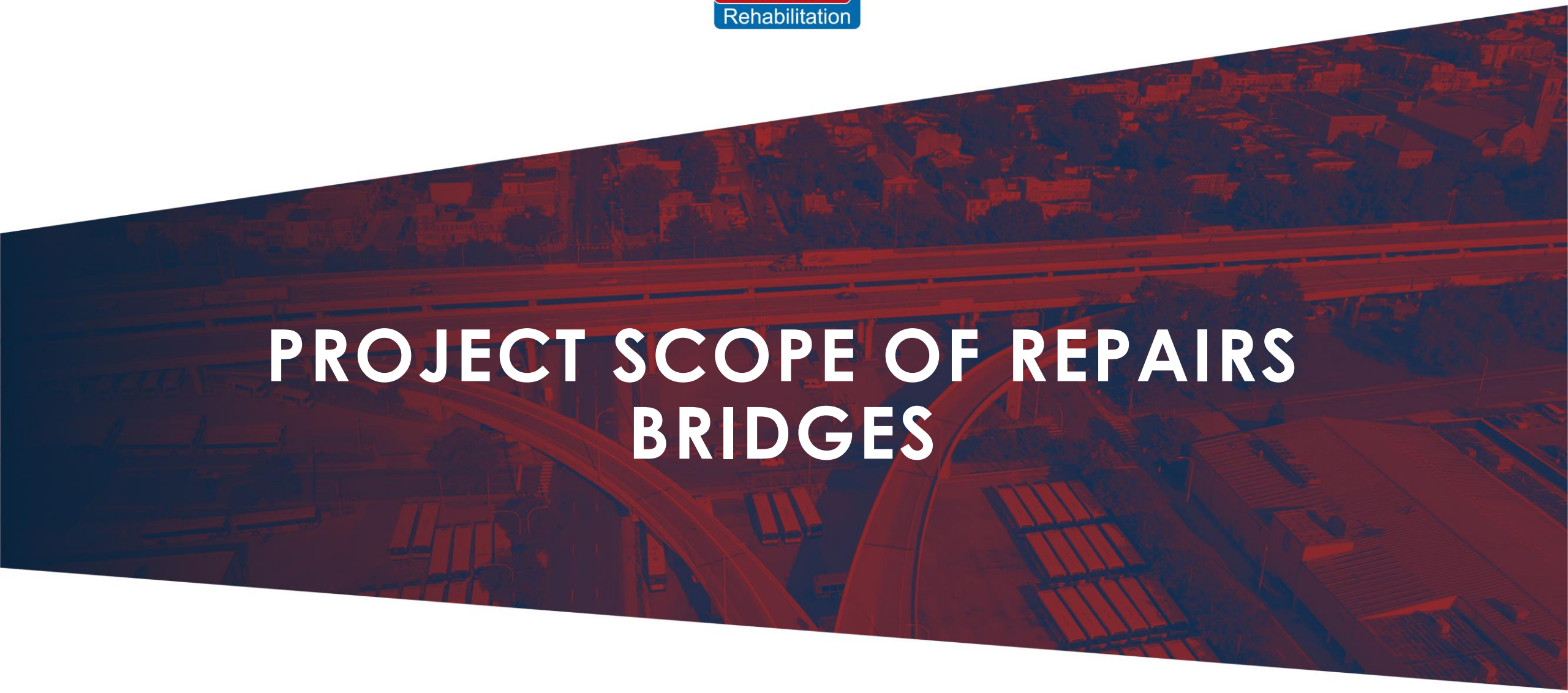
BREAKOUT CONTRACTS

PROPOSED BREAKOUT CONTRACTS

- Procured via design-bid-build
- All breakout contracts are currently in final design
- CM/GC may submit competitive bids on each contract
- CM/GC is expected to work with the breakout contractors as necessary

PROPOSED BREAKOUT CONTRACTS

- T201907002 – Cantilever and Overhead Sign Structures, I-95
  - Estimated construction 2020
- T201907402 – Rehabilitation of I-95, 2nd Street On-Ramp Improvements (*aka Ramp 'D'*)
  - Estimated construction duration spring 2020 – summer 2021
- T201907404 – Rehabilitation of I-95, Bearing Replacements
  - Estimated construction duration summer 2020 – summer 2021
- T201907403 – Rehabilitation of I-95, Viaduct Substructure Repairs
  - Estimated construction duration summer 2023 – summer 2025



PROJECT SCOPE OF REPAIRS
BRIDGES

BR 1-748, 748N & 748S (WILMINGTON VIADUCT)

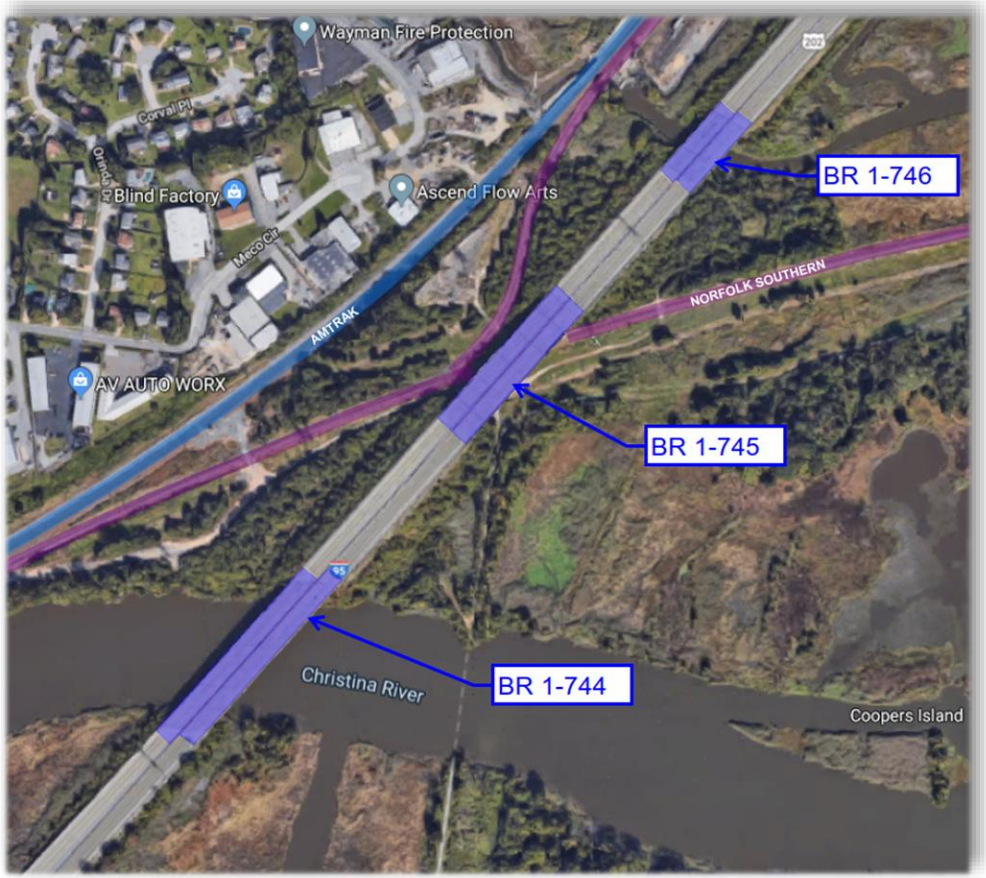
- Replace LMC bridge deck overlay
  - ~10,000 cubic yards of LMC overlay
  - ~100,000 square yards of hydrodemolition
- Reconstruct ~ 15,000 LF of parapets
- Replace or eliminate ~11,000 LF of roadway joints
  - UHPC link slabs
- Replace approach slabs
- Miscellaneous structural repairs

BR 1-749 (RAMP A)

- Exit 6 to Maryland Avenue
- Deck replacement
  - Span 1A is over Amtrak
  - Deck-over at Abutment
  - Replace Approach Slab

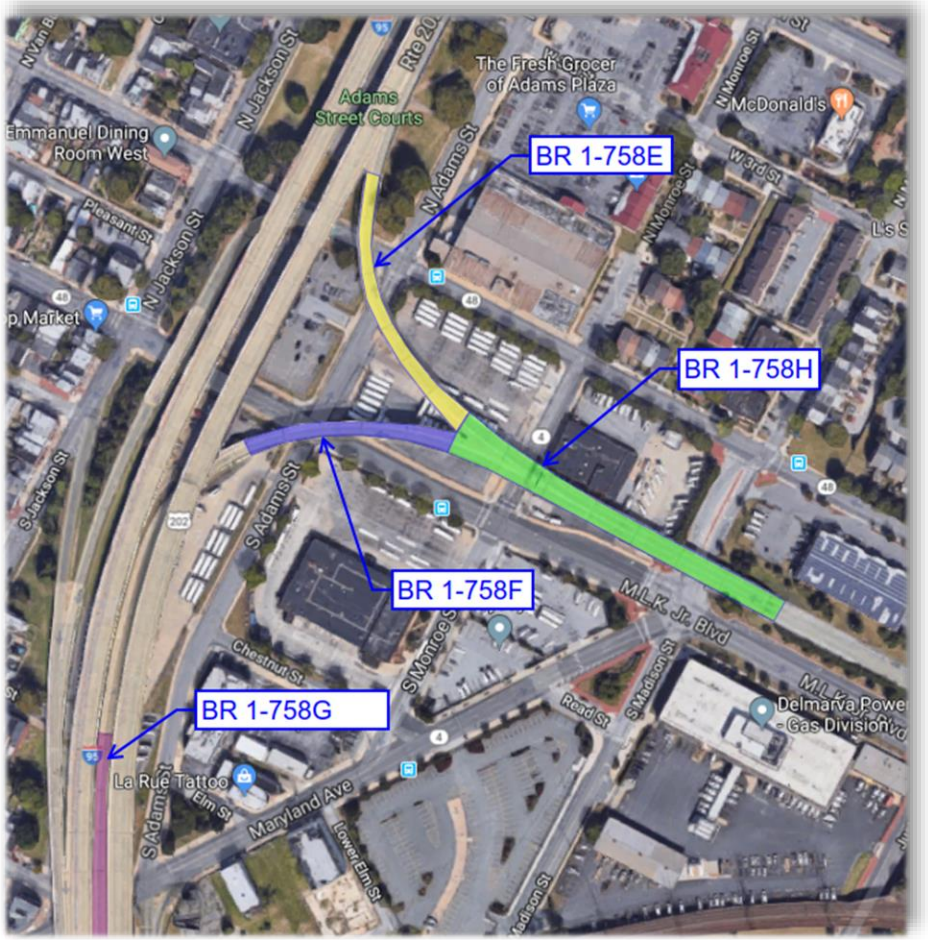
BR 1-744, 1-745, AND 1-746

- Replace LMC overlay
- Replace joints
- Construct deck-over at abutments
- Replace approach slabs
- Paint superstructures



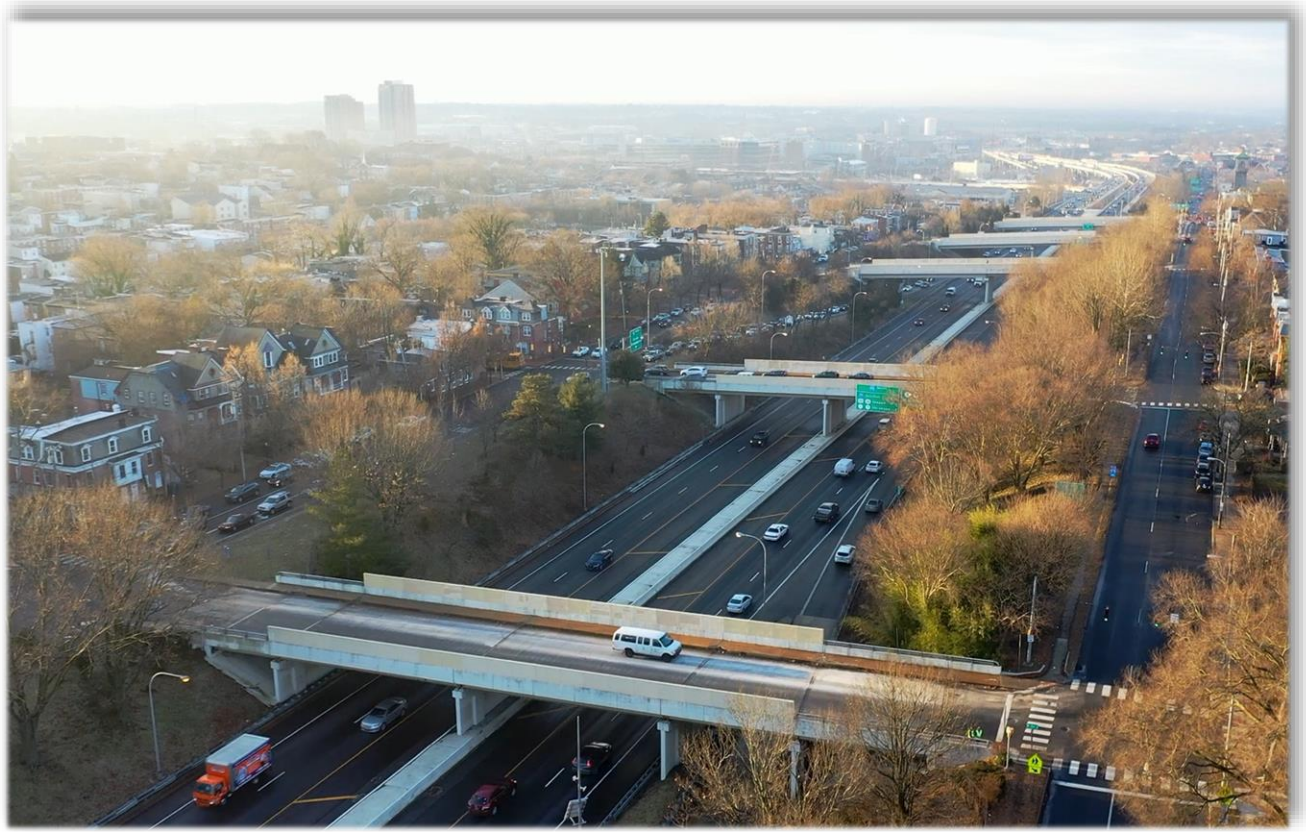
BR 1-758E, F, G, AND H

- Replace LMC Overlay
- Replace Joints
- Deck-over at Abutments
- Replace Approach Slabs
- Replace Bridge Mounted OH-4 (1-758H)



BR 1-751 – BR 1-757 OVERPASSES

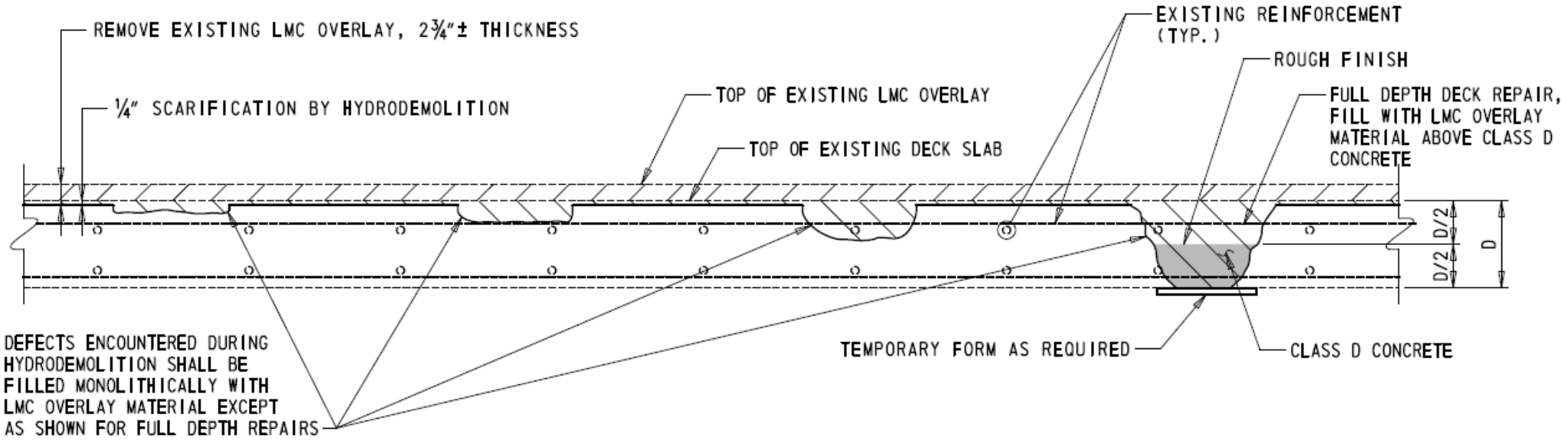
- Clean and paint steel superstructures



BRANDYWINE RIVER BRIDGE – BR 1-759

PROPOSED BRIDGE REPAIRS – BR 1-759

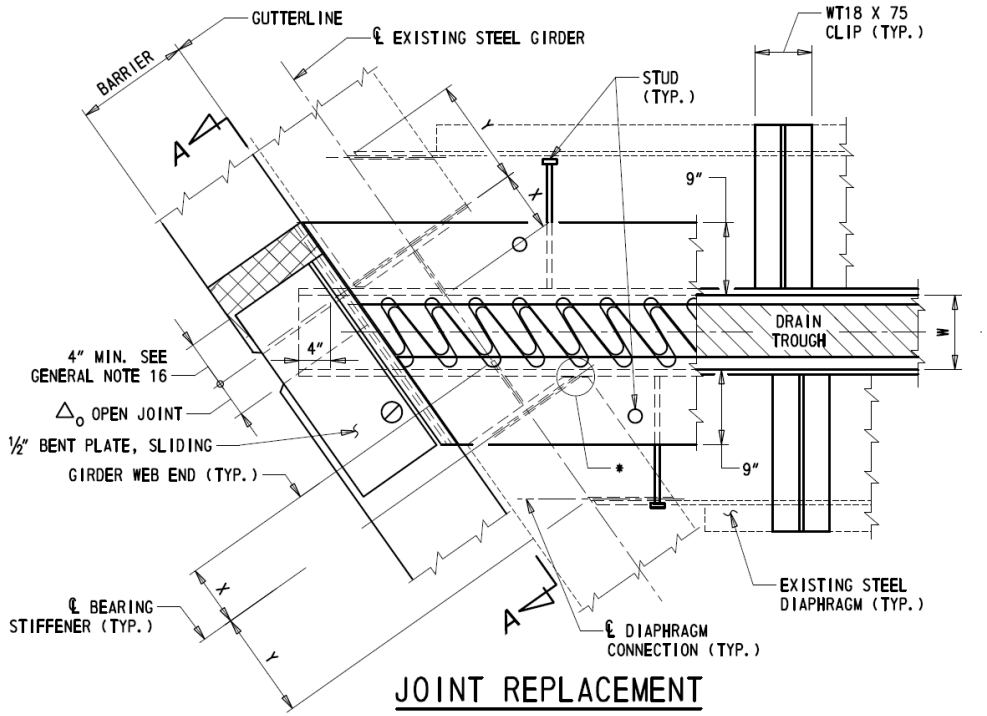
- Replace existing LMC overlay with new LMC overlay
- Total surface hydrodemolition



HYDRODEMOLITION AND DECK REPAIR (WITH OVERLAY)

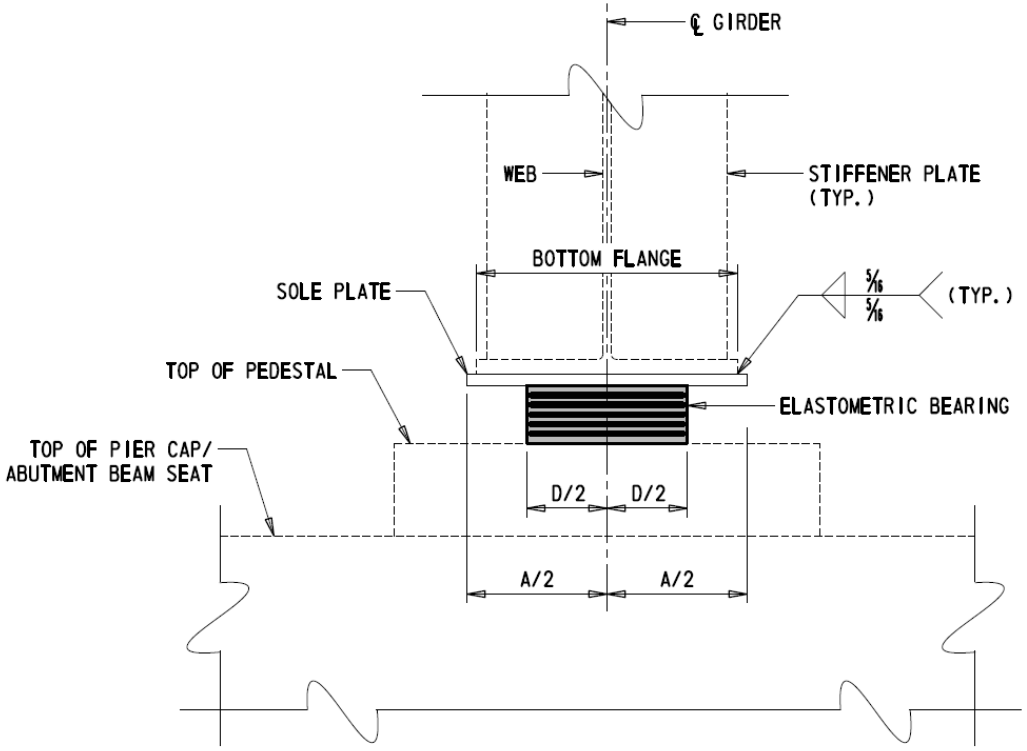
PROPOSED BRIDGE REPAIRS – BR 1-759

- Replace existing finger joints with new finger joints



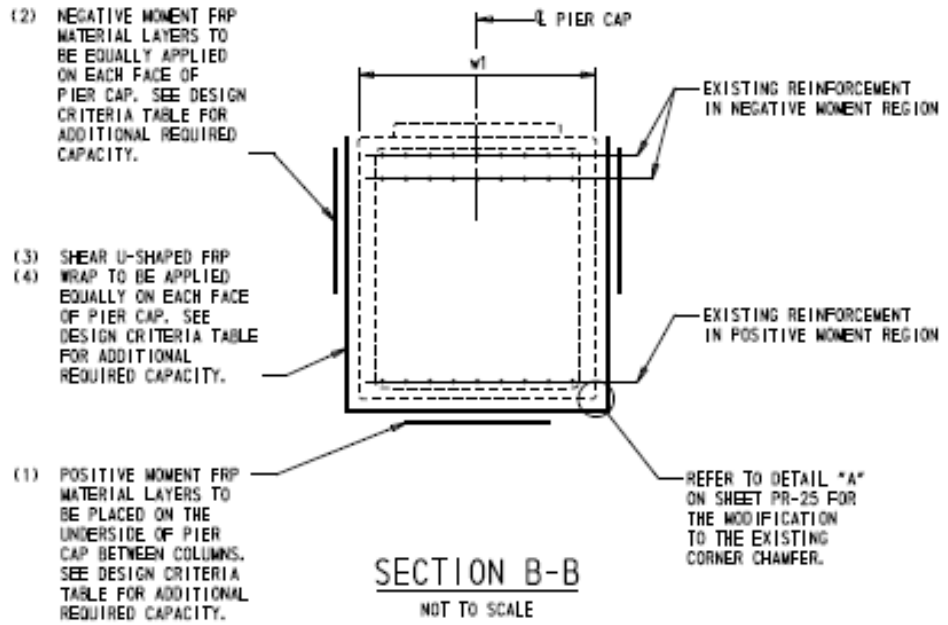
PROPOSED BRIDGE REPAIRS – BR 1-759

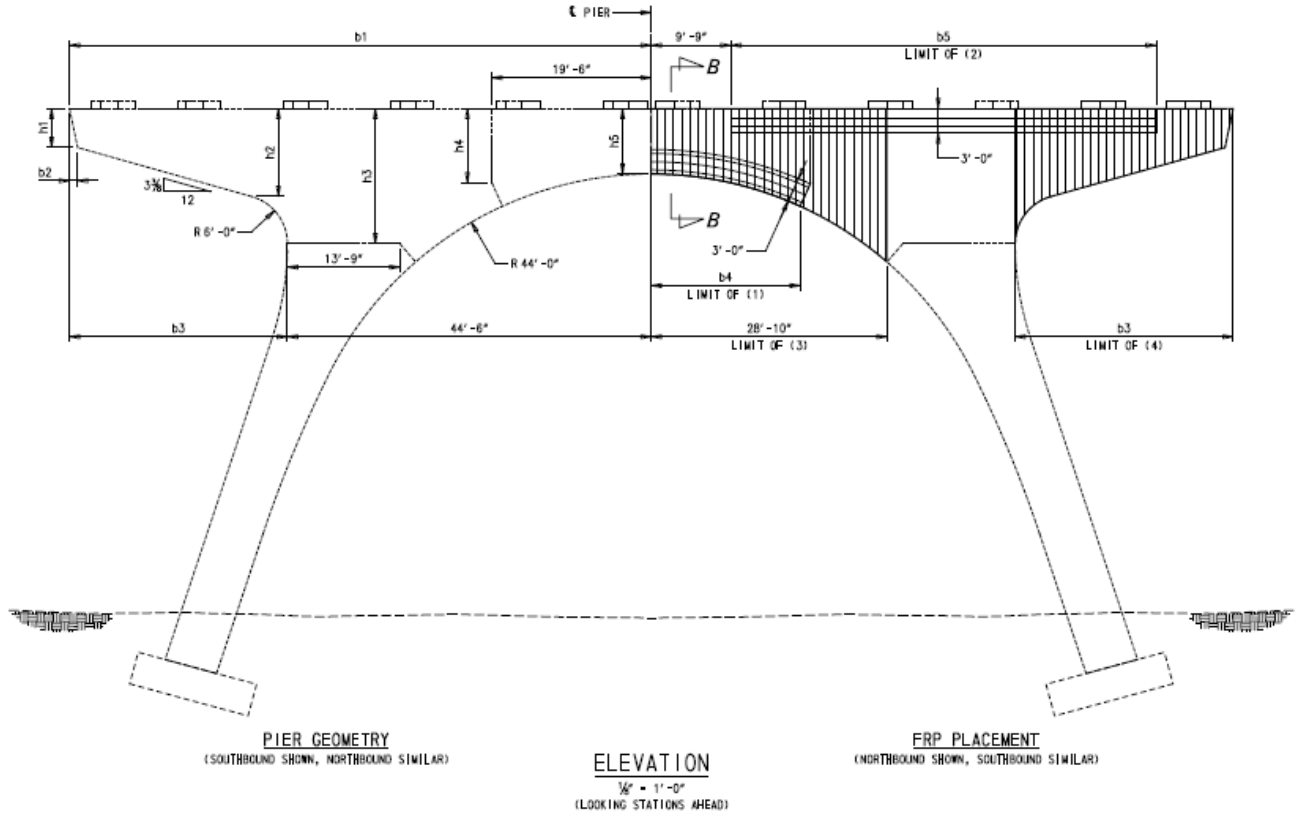
- Replace 156 steel rocker bearings with steel reinforced elastomeric bearings



PROPOSED BRIDGE REPAIRS – BR 1-759

- Strengthen piers with fiber reinforced polymer wrap





PROPOSED BRIDGE REPAIRS – BR 1-759

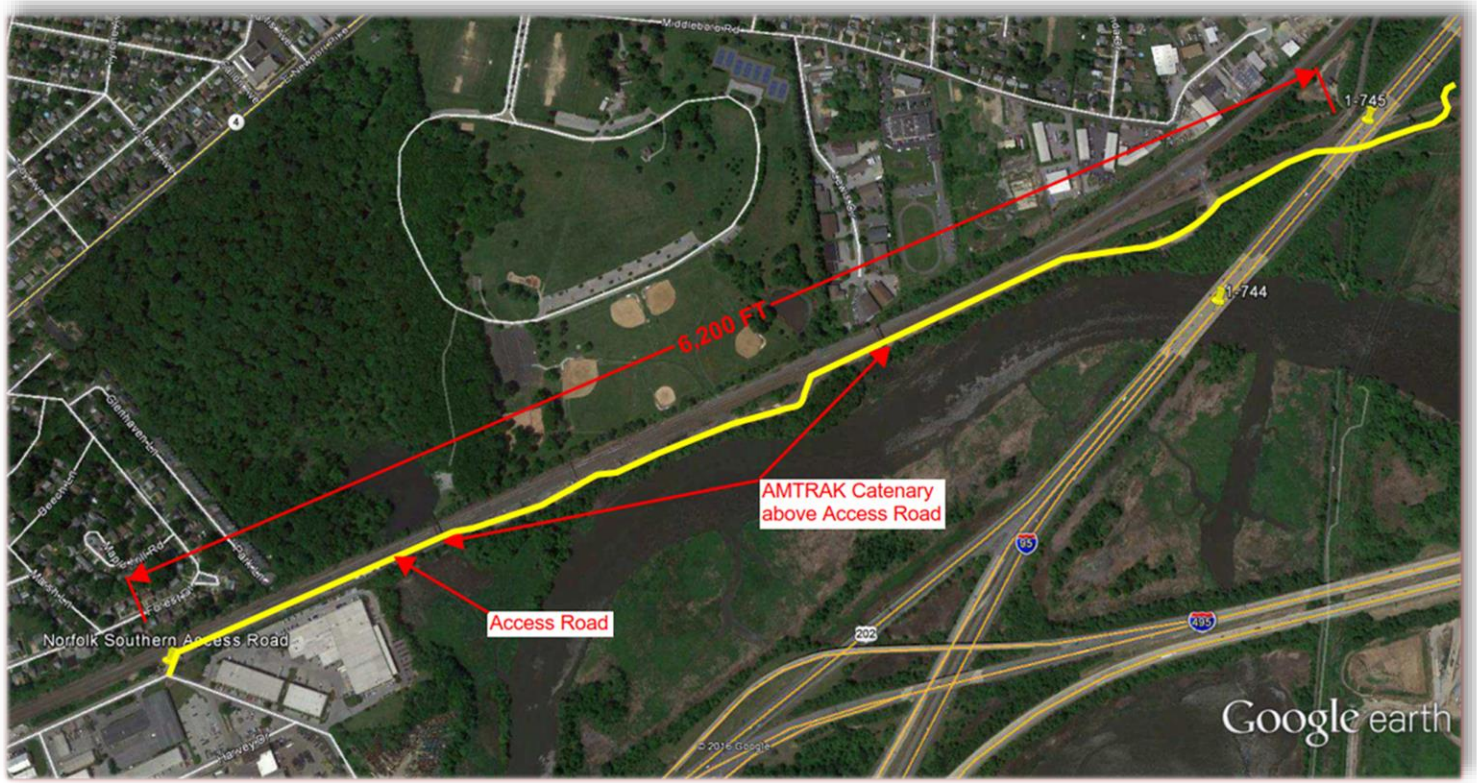
- Repair steel end diaphragms
- Replace approach slabs
- Clean and paint existing steel
- Modifications to the drainage system
- Add seismic restrainers at two piers
- Concrete sealing substructure and barrier

BRIDGE ACCESS

- BR 1-744 over Christina River - Barge and/or Scaffolding

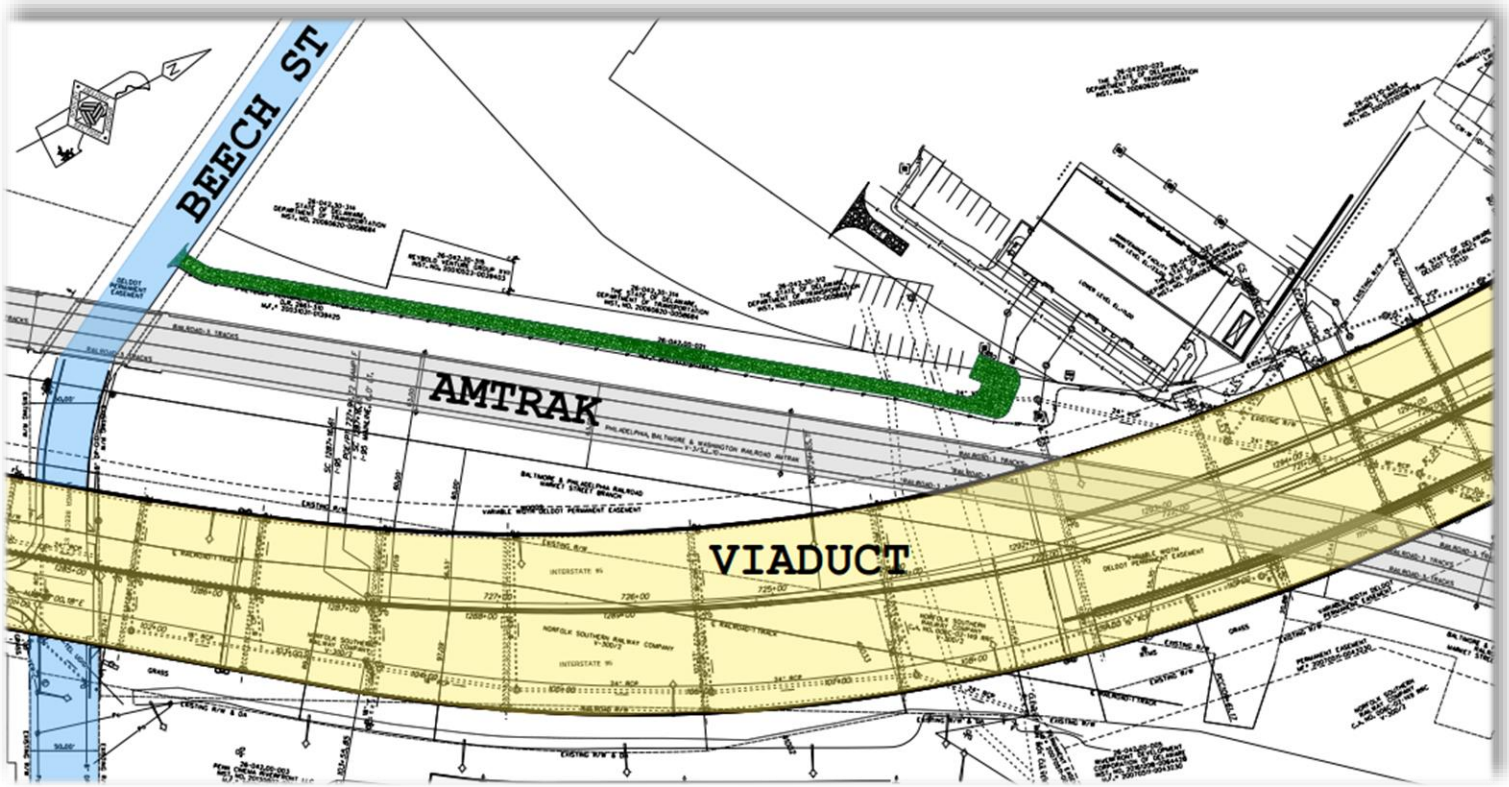
BRIDGE ACCESS

- BR 1-745 over N/S RR – Amtrak Access Road
  - Permit required from Amtrak ~30 days to acquire



BRIDGE ACCESS

- Wilmington Viaduct and Ramp bridges
  - Local streets
  - Temporary access road from Beech Street
  - Majority of work within DelDOT ROW



PROJECT SCOPE OF REPAIRS
ROADWAY

PROPOSED ROADWAY REPAIRS

- ~17,000 LF of new guardrail
- Replace or mill/overlay pavement
  - ~22,000 tons bituminous concrete
  - ~54,000 square yards of 12" PCC pavement
- Replace PCC safety barriers
  - ~14,500 linear feet of 42" single face
  - ~6,000 linear feet of 42" double face

PROPOSED ROADWAY REPAIRS

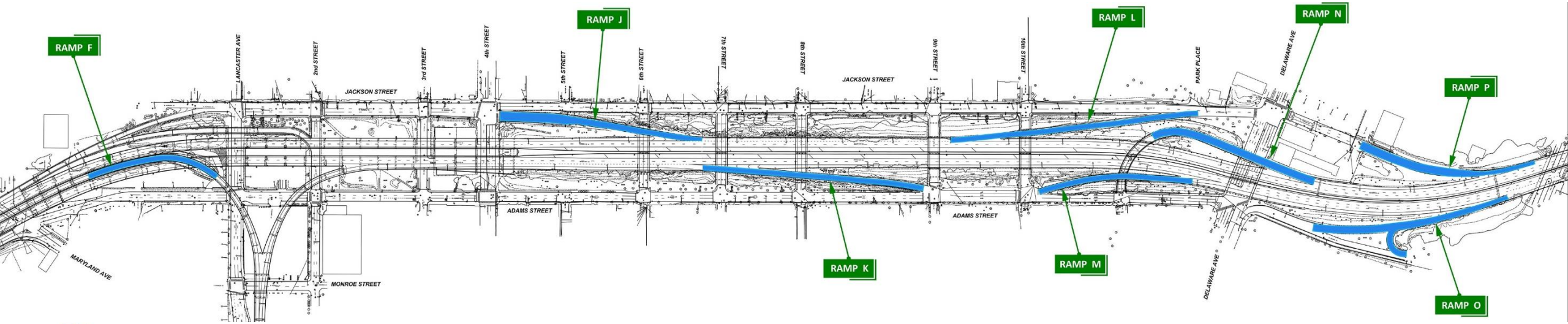
- 10TH Street overpass incurs frequent impacts
- Re-profile I-95 north of Viaduct
- Full depth replacement with concrete pavement

PROPOSED ROADWAY REPAIRS

- Re-surfacing I-95 south of the Viaduct
  - "Shave & Pave"
- Barrier reconstruction
- Shoulder reconstruction
- Drainage pipe lining
- Upgraded guardrail

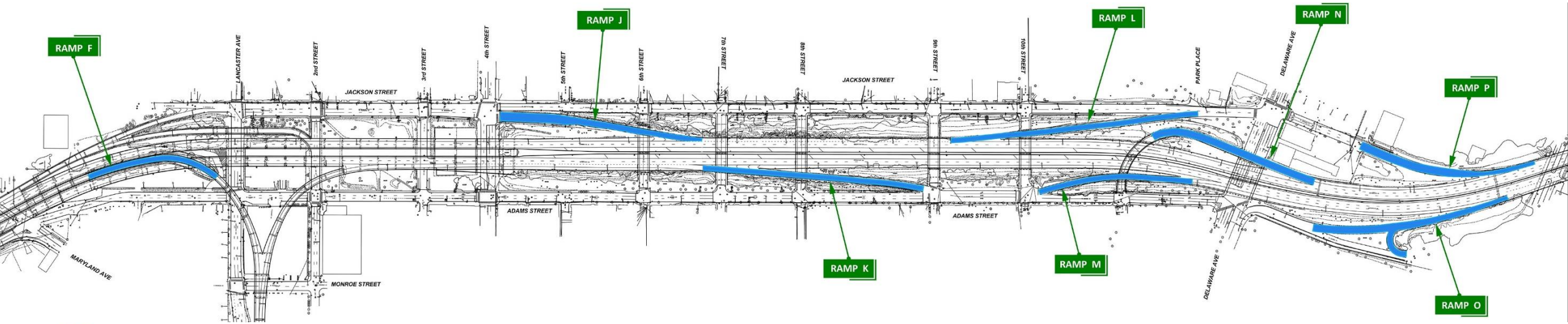
PROPOSED ROADWAY REPAIRS – RAMPS

- Ramp reconstruction
  - 12” PCC pavement
  - Minor grading/geometric improvements
  - Safety improvements

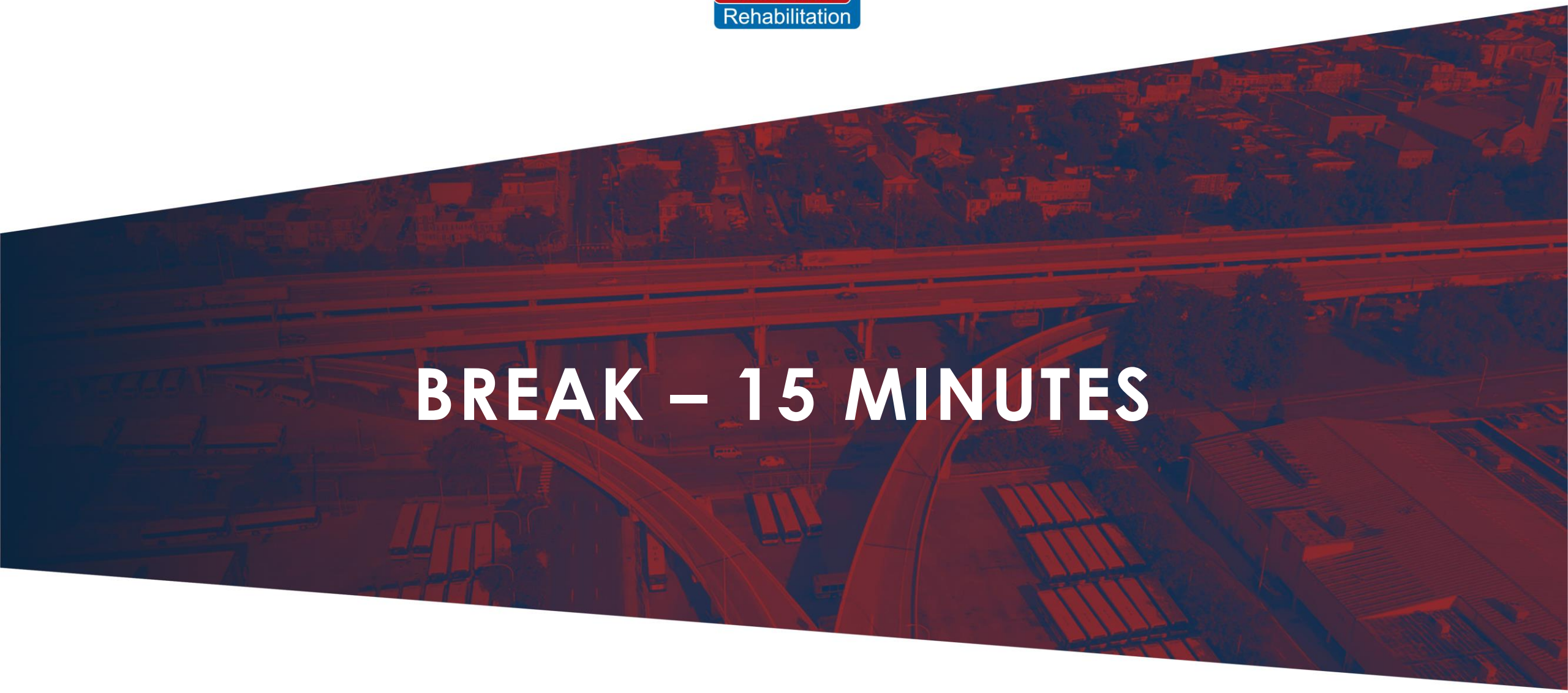


PROPOSED ROADWAY REPAIRS – RAMPS

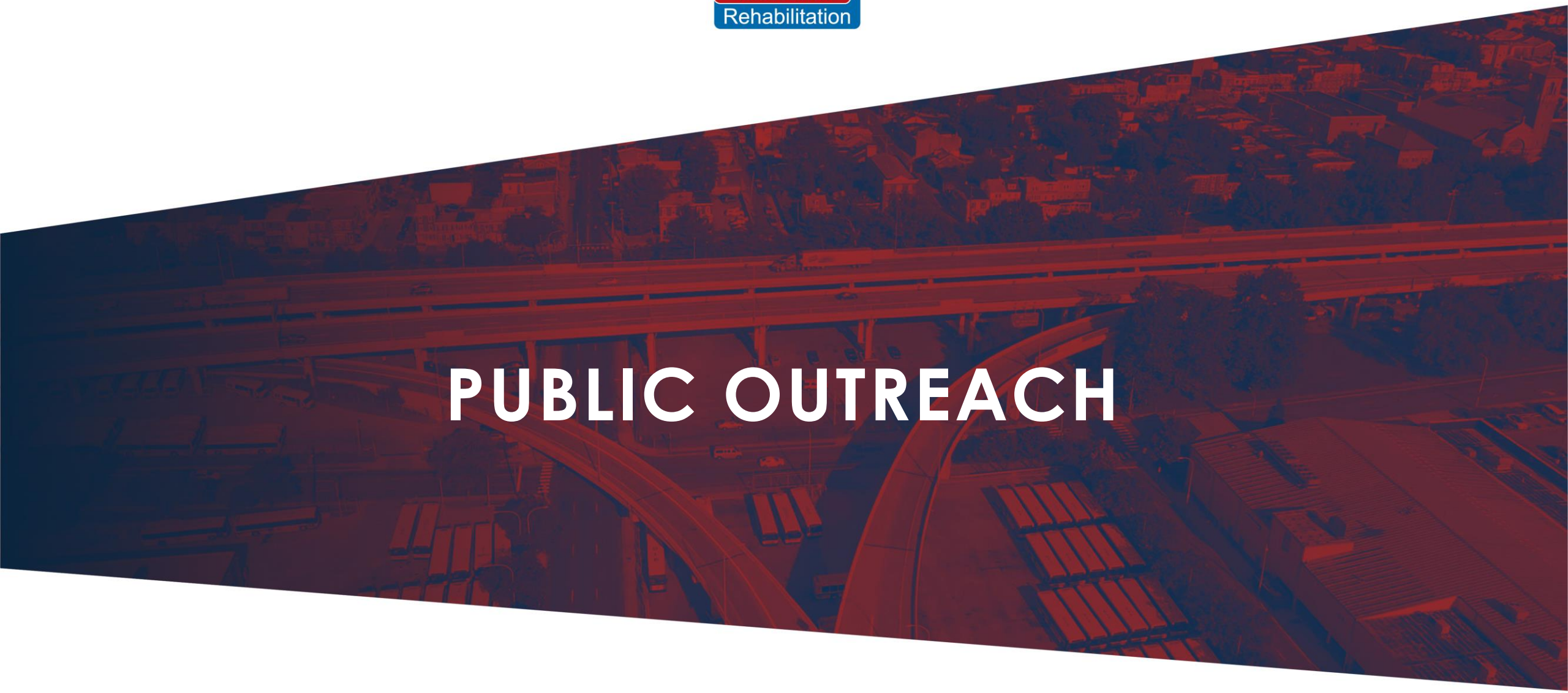
- Pavement box ~ existing pavement box excavation
- Rock elevation varies
  - Conflicts with guardrail posts and drainage pipes
- MOT – Staggered ramp closures



QUESTION AND ANSWER



BREAK – 15 MINUTES



PUBLIC OUTREACH

PUBLIC OUTREACH

- Key component of the project during design and construction
- CM is expected to be integral to the outreach program
- Public Workshops
- Community Advisory Groups (quarterly)
- Wilmington Initiatives (yearly)
- Local communities and businesses
- Legislative briefings

PUBLIC OUTREACH VIDEO

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CPM SCHEDULE

CPM SCHEDULE

- Project Requirements
  - 2 –year clock starts at beginning of Stage 1A (shoulder work on mainline I-95)
  - Weekend work as needed
  - Limited nightwork
- Schedule mirrors MOT stages

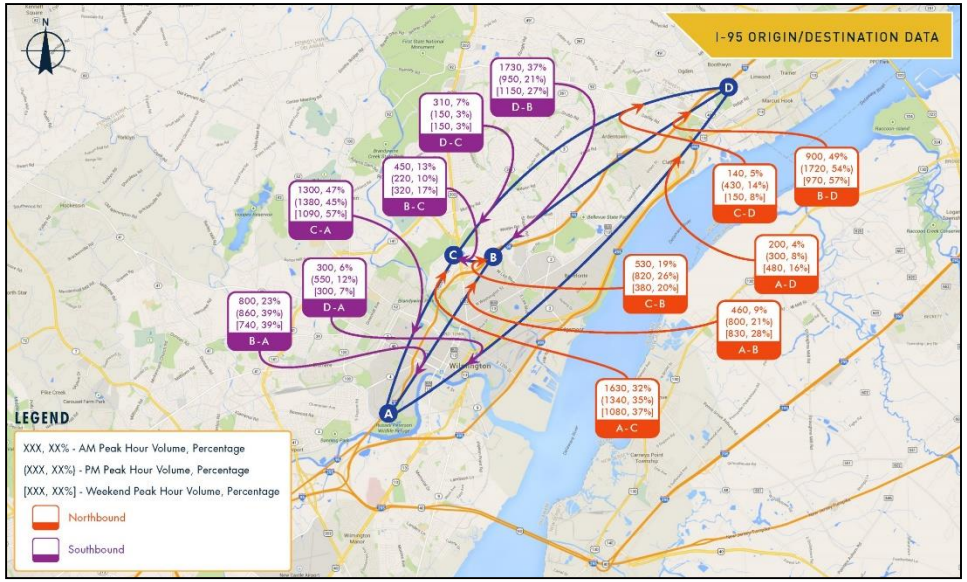
CPM SCHEDULE OVERVIEW

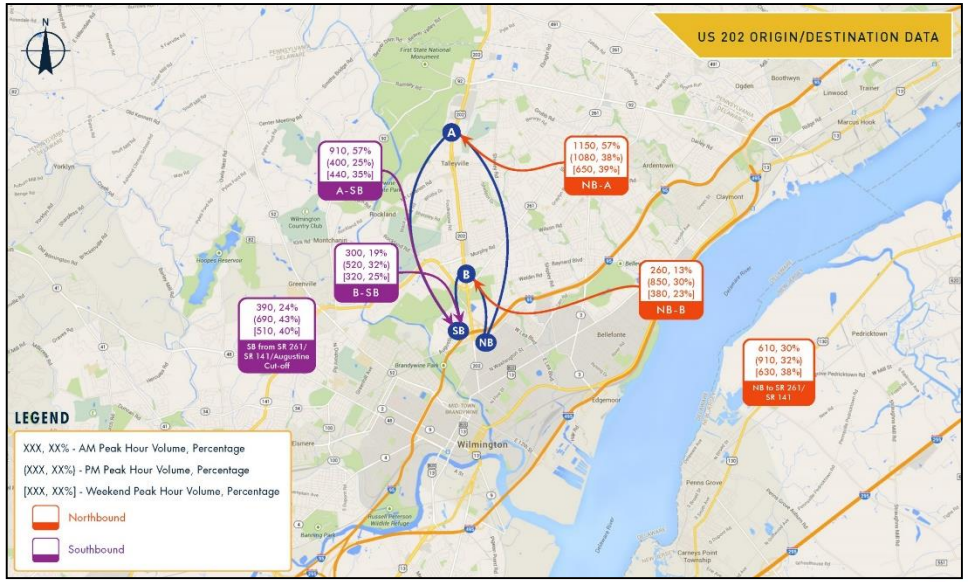
- Schedule developed using Primavera P6 Professional v15.2
- 1,880 activities
- Based on DelDOT calendar
  - 5-day work week
  - Weekends, holidays, inclement weather are non-workdays
- Schedule assigns specific calendars to weather sensitive work
  - LMC
  - WMA
- Crew sizes based on available work zone(s) and site access
  - Long hours, weekends, and/or double shifts may be required
- CPM Schedule reviewed by DelDOT and independent constructability reviewer

MAINTENANCE OF TRAFFIC (MOT)

I-95 TRAFFIC DATA

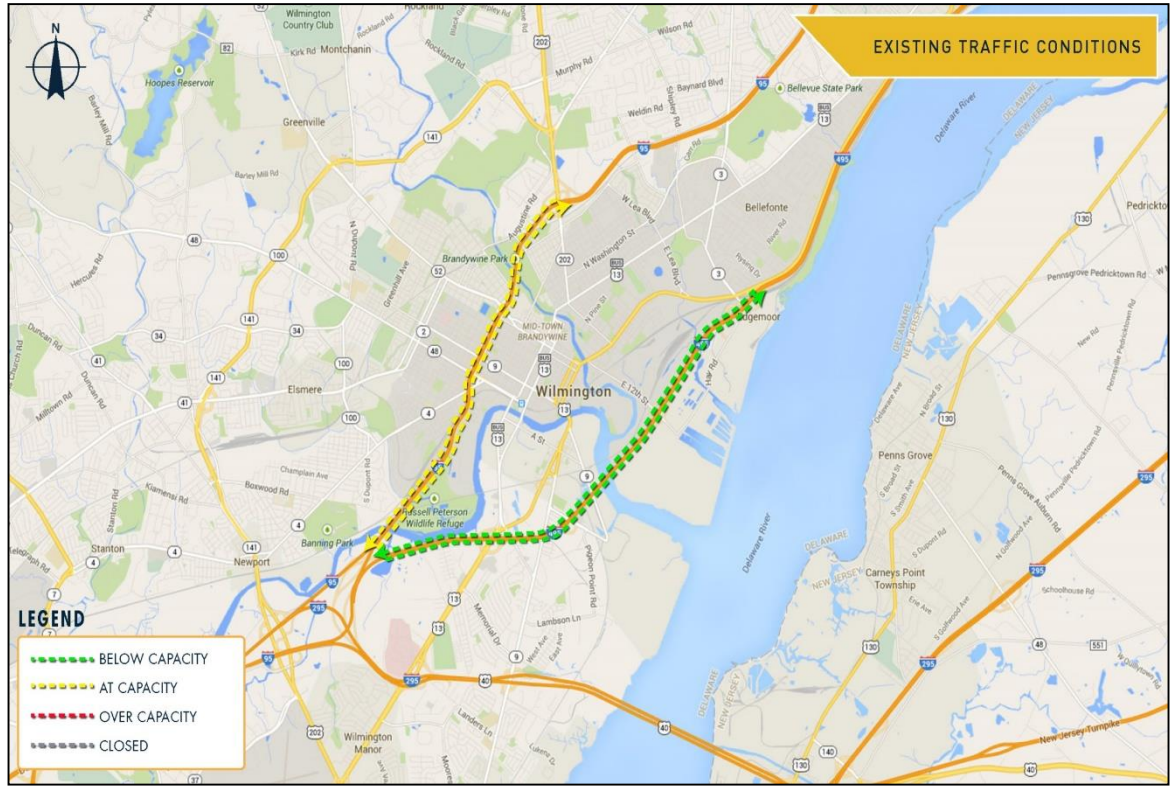
- Origin- Destination Information
  - 4% to 12% thru traffic
    - I-95 operates as a "local" roadway
    - I-495 much higher thru traffic percentage
  - 1/3 of traffic has origin or destination to/from US 202





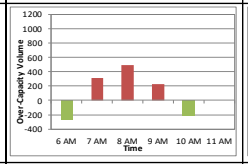
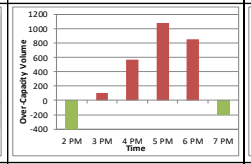
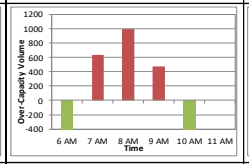
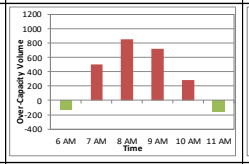
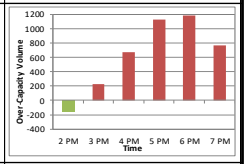
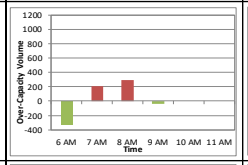
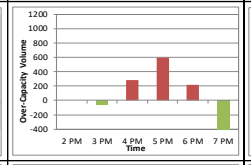
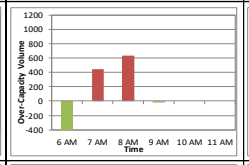
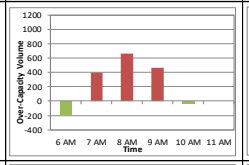
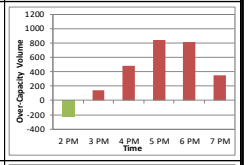
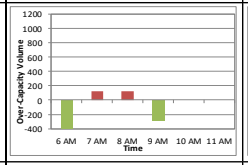
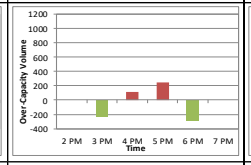
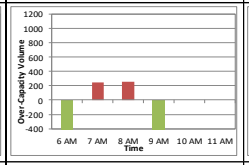
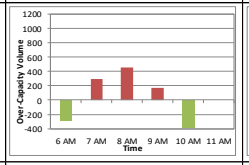
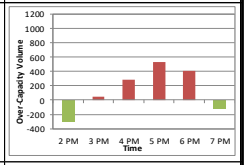
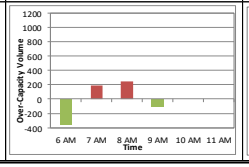
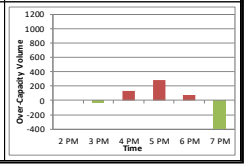
I-95 TRAFFIC DATA

- Traffic Volumes
  - AM Peak Period
    - Over 5,100 vehicles entering the work area from the south
      - Approximately 4,500 of those vehicles have a destination of either Exits 6, 7 or 8
    - Over 4,900 vehicles entering the word area from the north
    - Over 4,000 vehicles leaving the work area heading south
    - Over 3,500 vehicles leaving the work area heading north



I-95 TRAFFIC DATA

- Traffic Volumes
  - PM Peak Period
    - Over 3,800 vehicles entering the work area from the south/north
    - Over 5,200 vehicles leaving the work area heading south
    - Over 5,100 vehicles leaving the work area heading north
      - 3,000 vehicles destined to US 202

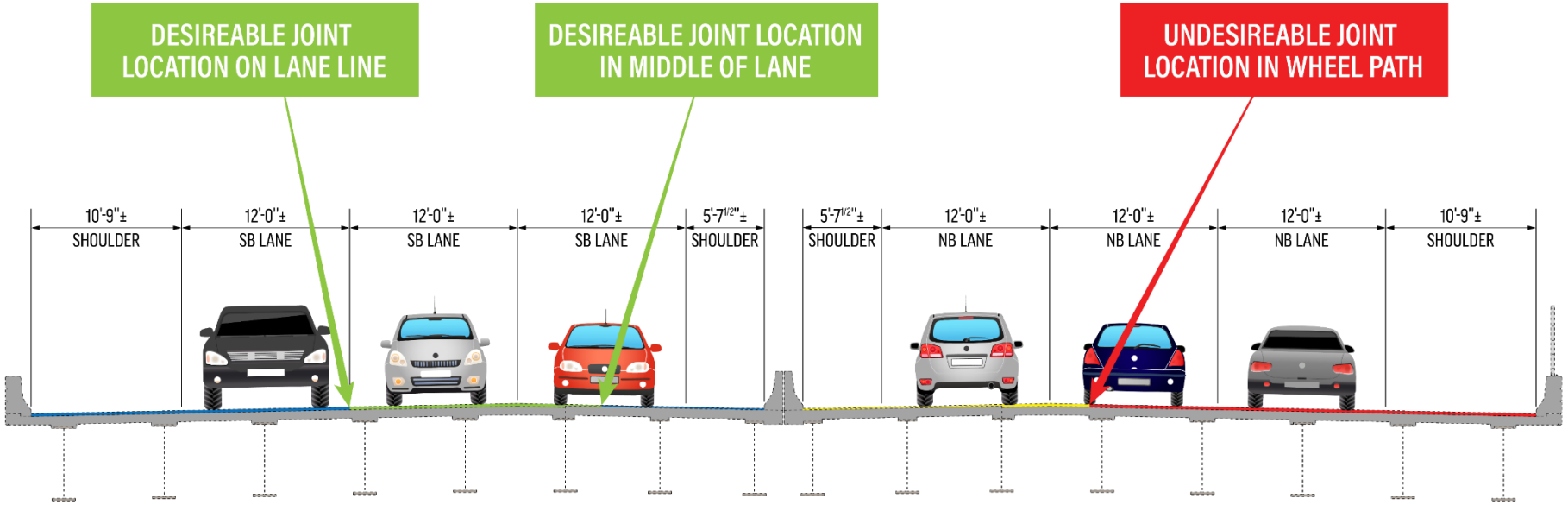
Percent decrease in critical traffic volume	Northbound I-95 Single-Lane Closure		Southbound I-95 Single-Lane Closure		
	AM Peak: Viaduct One-Lane Segment	PM Peak: BRB Two-Lane Segment	AM Peak: BRB Two-Lane Segment	AM Peak: Viaduct One-Lane Segment	PM Peak: Viaduct One-Lane Segment
	Assumption: Closure or 100% diversion of off-ramp to Adams St/9th St (1400 peak vehicles) via I-495 NB	Assumption: 50% diversion of on-ramp from Adams St/Delaware Ave (640 peak vehicles) vehicles destined to north of US 202	Assumption: 25% diversion of off-ramp to Delaware Ave/Gilpin St (250 peak vehicles) via US 202 or Marsh Rd exits	Assumption: Closure or 100% diversion of on-ramp from Jackson St/2nd St & 50% diversion of on-ramp from Jackson St/Delaware Ave (600 + 350 peak vehicles) via I-495 SB or SR 4 WB	Assumption: Closure or 100% diversion of on-ramp from Jackson St/2nd St & 50% diversion of on-ramp from Jackson St/Delaware Ave (620 + 380 peak vehicles) via I-495 SB or SR 4 WB
0%					
5%					
10%					
15%					

MOT – CONSIDERATIONS AND RESTRICTIONS

- Traffic
  - Limit impacts to I-95 traffic
    - **Maximum** of 2 years of long-term lane closures on I-95
  - Limit impacts to City of Wilmington
    - Maintain ingress and egress
    - Staggered ramp closures
  - Keep new Ramp D open
  - Lateral offset of TCB to work zone
  - Minimize/eliminate split traffic stages

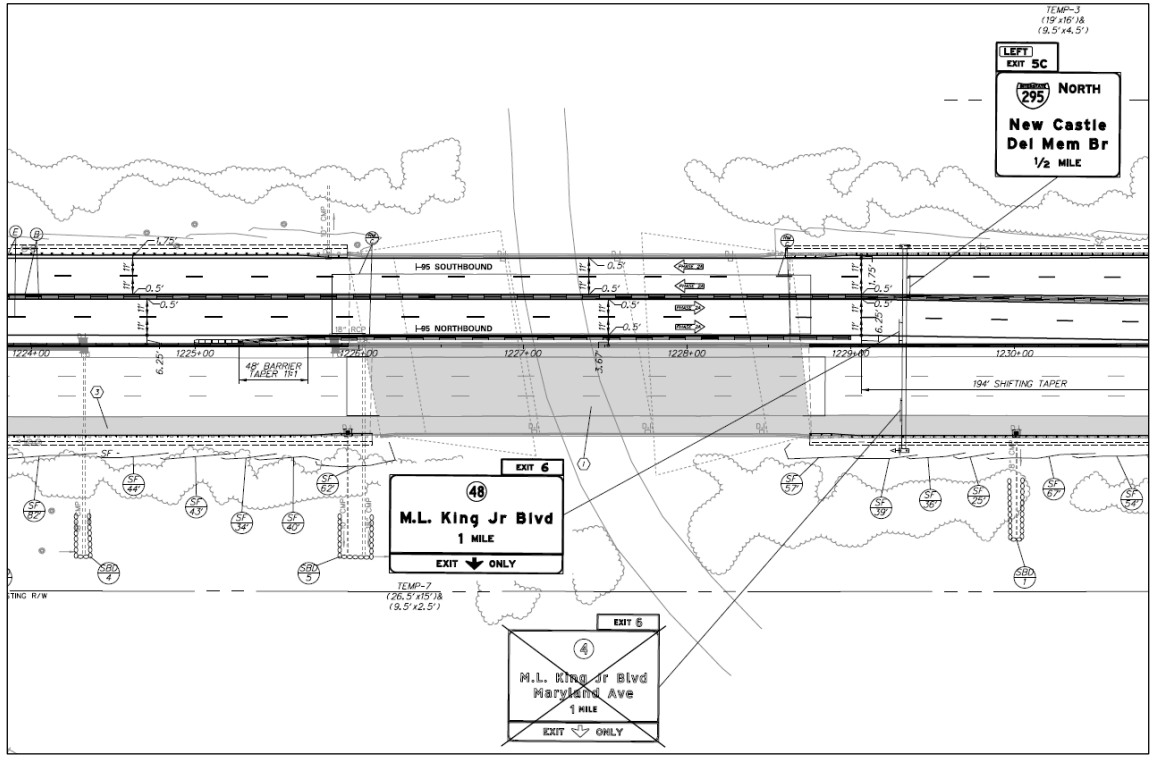
MOT – CONSIDERATIONS AND RESTRICTIONS

- Joint Locations
  - Bridge deck overlay
  - Concrete pavement (mainline at-grade lanes)



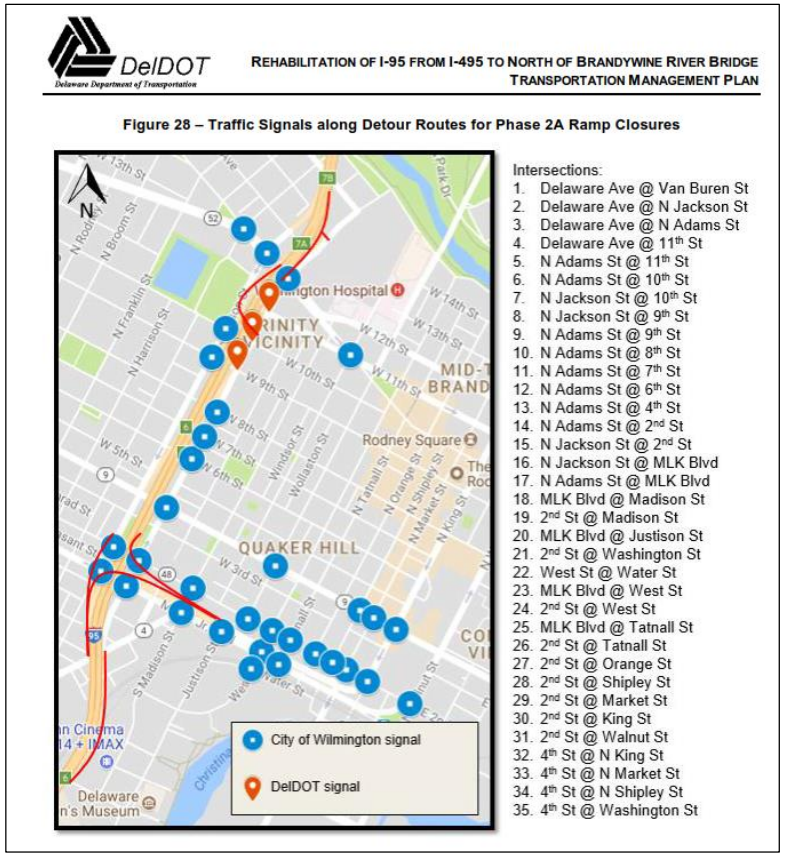
WORK ZONE IMPACTS

- I-95
  - Shoulder closures
  - Lane shifts
  - Long-term single lane closures
  - Short-term single and double lane closures
  - Entrance/Exit ramp closures
  - Contraflow
    - NB traffic on SB road
    - SB traffic on NB road
    - MLK Jr Blvd on ramp
  - Stage changes



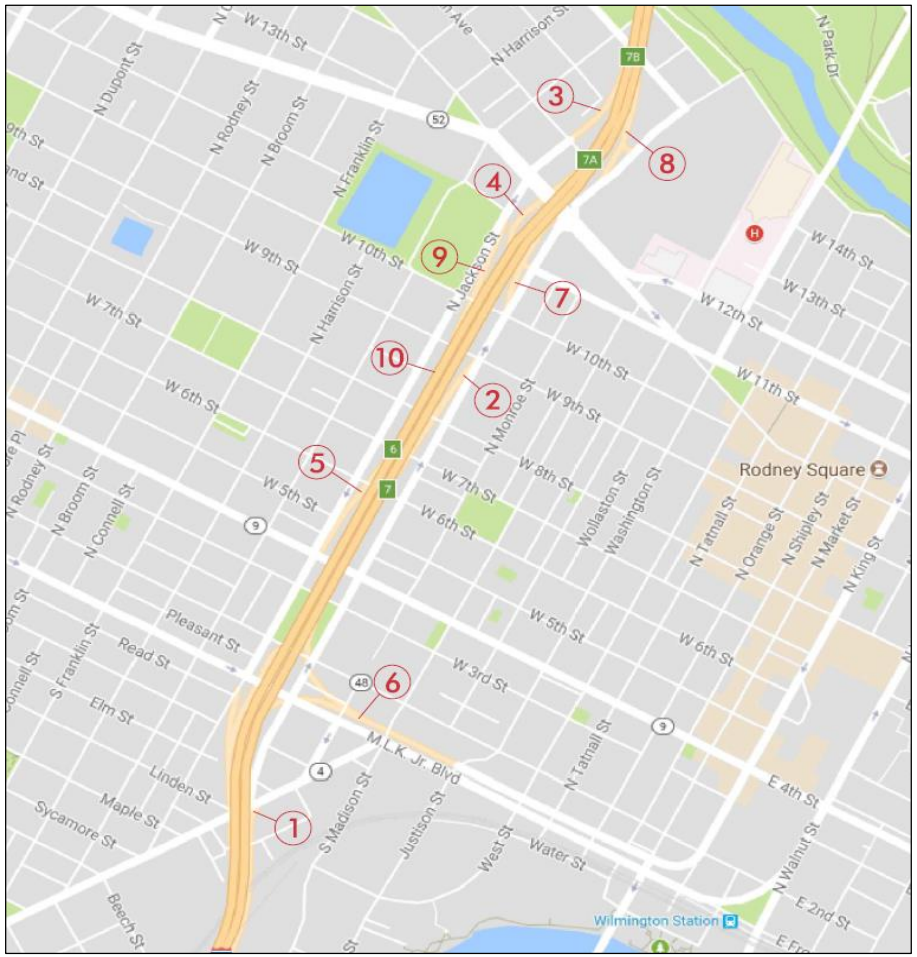
WORK ZONE IMPACTS

- City of Wilmington Streets
  - I-95 lane closures increase demand on these primary diversion routes
    - Market Street (South Wilmington & 16th Street/18th Street area)
    - Walnut Street (South Wilmington)
    - Maryland Avenue
    - Northeast Boulevard/12th Street (in area of Brandywine Creek)
    - Augustine Cut-off
    - Washington Street/Baynard Boulevard
  - Short-term single and double lane closures
  - Contraflow
    - MLK Jr Blvd (associated with MLK Jr Blvd ramp contraflow)



WORK ZONE IMPACTS

- Roadway Closures & Detours
  - Long-term ramp closures
    - 1 – NB Exit 6 (Maryland Ave)
    - 2 – NB Exit 7 (Delaware Ave)
    - 3 – SB Exit 7B (Delaware Ave)
    - 4 – SB Exit 7A (Delaware Ave)
    - 5 – SB Exit 6 (MLK Jr Blvd)
    - 6 – MLK Jr Blvd on-ramps to NB/SB
    - 7 – Adams St / 10th St on-ramp to NB
    - 8 – SR 52 / Adams St on-ramp to NB
    - 9 – SR 52 / Jackson St on-ramp to SB
  - Short-term road closures
    - 5 – SB Exit 6 (MLK Jr Blvd)
    - 10 – SB mainline "CD" lane

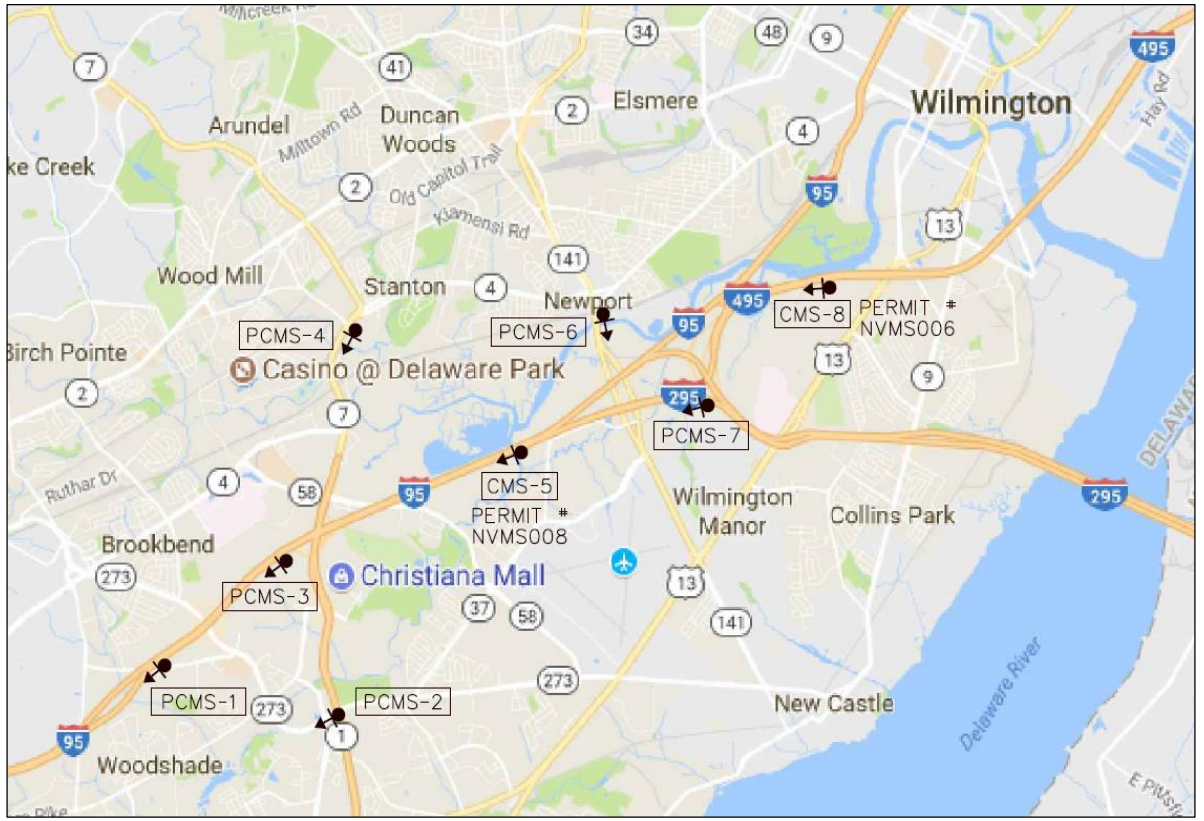


TRAFFIC MITIGATION PLAN

- Incident Management Plan
  - Accidents/disabled vehicles
  - Snow events
- Active Traffic Management System
  - Variable message signs
  - DelDOT traffic app
- Revise signal timings in City
- City street improvements
  - Repaving (ongoing)
  - ADA ramps

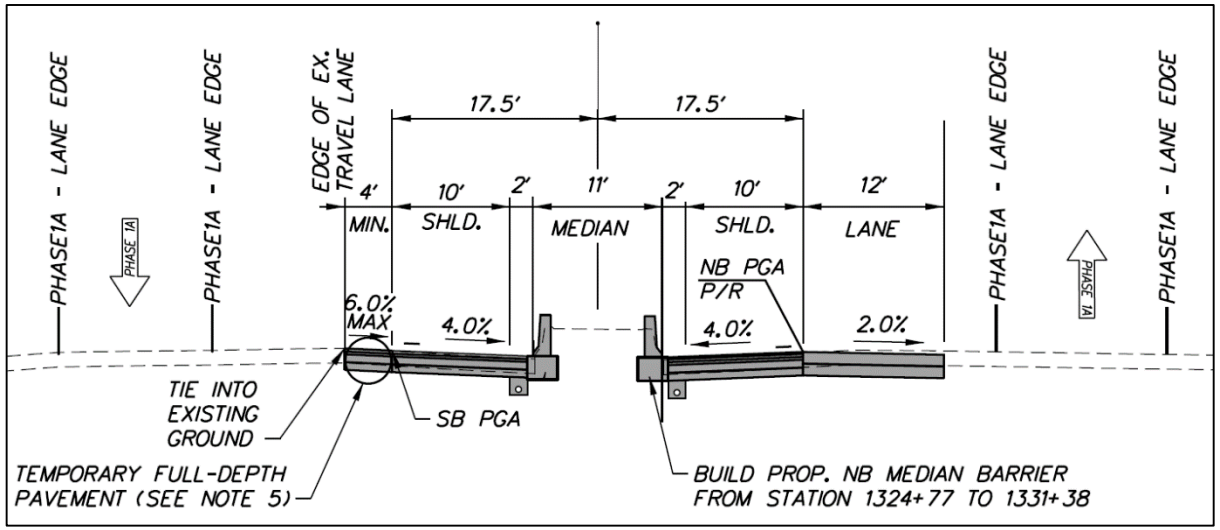
TRAFFIC MANAGEMENT SYSTEM

- Real-time work zone information
  - Congestion / Delay
  - Alternate routes
- Regional Deployment of PVMS
- Utilize existing VMS
- Traffic data
  - Utilize DelDOT's existing traffic detectors
  - Other traffic detector deployments?
  - Third Party?
- System responsibility to be determined
  - Contractor?
  - DelDOT?
  - Combination?



MOT – SCOPE OF WORK

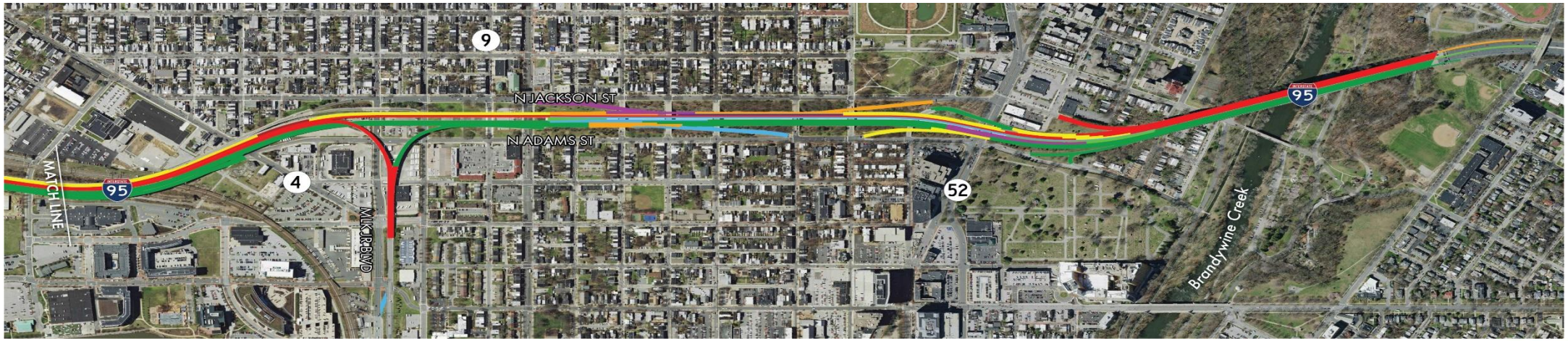
- Standard temporary traffic control devices
  - Temporary P.C.C. Safety Barrier
    - ~39,000 feet standard
    - ~8,000 feet pinned
    - ~100,000+ feet relocated
- Temporary guide signing
- Temporary crossovers
- Temporary Paving
  - Temporary roadway
  - Cross-slope adjustment / wedge and level
- Temporary traffic signals
  - MLK Jr Blvd at Washington St



95 Wilmington Corridor Rehabilitation

MOT – OVERALL STAGING

LEGEND	
	STAGE 1A WORK AREA
	STAGE 1B WORK AREA
	STAGE 1C WORK AREA
	STAGE 2A WORK AREA
	STAGE 2B WORK AREA
	STAGE 3A WORK AREA
	STAGE 3B WORK AREA
	STAGE 3C WORK AREA
	STAGE 4 WORK AREA



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WRA

95 Wilmington Corridor Rehabilitation

MOT – STAGE 1A

29,000+ feet TCB

2.25 Mile Work Area

- Construction
  - Median barrier replacement
  - Median shoulder reconstruction
  - Temporary crossovers
    - 3 on mainline and MLK Jr. Blvd
  - Roadway reconstruction (mainline left side and ramps)
- MOT
  - 1 lane closed each direction on I-95 (I-495 to US 202)
- Closures and Detours
  - NB Exit 7 (Delaware Ave) closed

DelDOT Delaware Department of Transportation

LEGEND	
	STAGE 1A WORK AREA

WRA

I-95 Wilmington Corridor Rehabilitation

MOT – STAGE 1A

29,000+ feet TCB

2.25 Mile Work Area

- Construction
  - Median barrier replacement
  - Median shoulder reconstruction
  - Temporary crossovers
    - 3 on mainline and MLK Jr. Blvd
    - 2 for ramp access
  - Roadway reconstruction (mainline left side and ramps)
- MOT
  - 1 lane closed each direction on I-95 (I-495 to US 202)
- Closures and Detours
  - NB Exit 7 (Delaware Ave) closed

LEGEND

STAGE 1A WORK AREA

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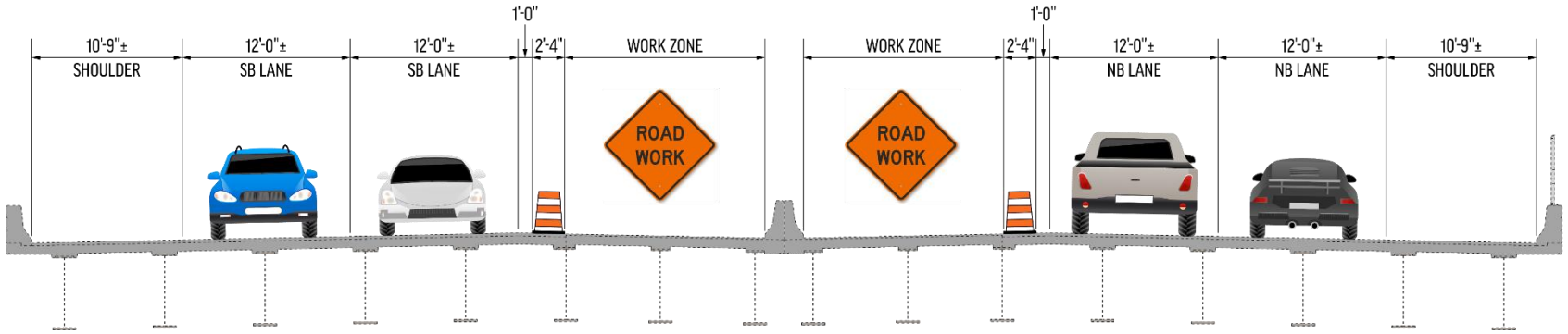
WRA

MOT – STAGE 1A



SOUTHERN STAGE 1 CONSTRUCTION

NORTHERN STAGE 1 CONSTRUCTION

95 Wilmington Corridor Rehabilitation

MOT – STAGE 1B

16,000+ feet TCB

1.5 Mile Work Area

- Construction
  - SB right shoulder reconstruction
  - Roadway reconstruction (mainline right side and ramps)
- MOT
  - 1 lane closed each direction on I-95 (I-495 to US 202)
- Closures and Detours
  - NB Exit 7 (Delaware Ave) closed
  - SB Exit 7A (Delaware Ave) closed
  - SR 52 / Jackson St on-ramp to SB closed

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LEGEND	
	STAGE 1B WORK AREA

WRA

I-95 Wilmington Corridor Rehabilitation

MOT – STAGE 1B

16,000+ feet TCB

1.5 Mile Work Area

- Construction
  - SB right shoulder reconstruction
  - Roadway reconstruction (mainline right side and ramps)
- MOT
  - 1 lane closed each direction on I-95 (I-495 to US 202)
- Closures and Detours
  - NB Exit 7 (Delaware Ave) closed
  - SB Exit 7A (Delaware Ave) closed
  - SR 52 / Jackson St on-ramp to SB closed

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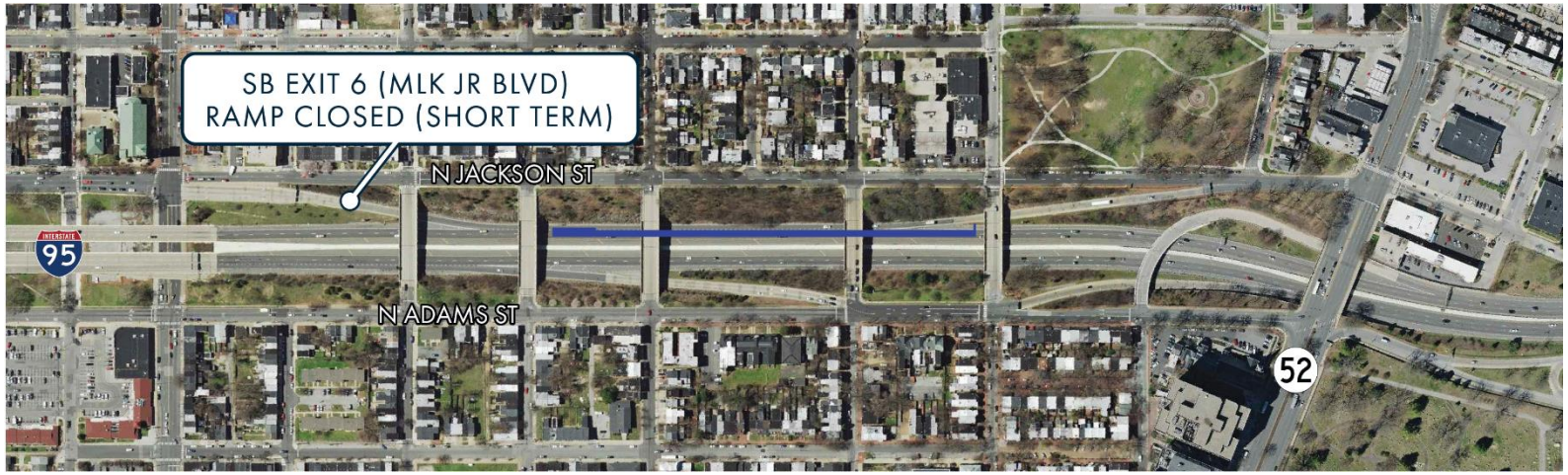
LEGEND	
	STAGE 1B WORK AREA

WRA

MOT – STAGE 1C

- Construction
  - Roadway reconstruction (SB mainline center)
- MOT
  - Limited deceleration lane SB Exit 6 (MLK Jr Blvd)
- Closures and Detours
  - SB Exit 6 (MLK Jr Blvd) closed **(short-term)**



95 Wilmington Corridor Rehabilitation

MOT – STAGE 2A

33,000+ feet TCB

3.5 Mile Work Area

- Construction
  - Bridge work (NB)
  - Deck overlay (NB)
  - Roadway reconstruction (NB mainline and ramps)
- MOT
  - 1 lane closed each direction on I-95 (I-495 to US 202)
  - Temporary crossovers in use
  - Contraflow
    - NB traffic on SB road
    - MLK Jr Blvd on/off ramp
    - MLK Jr Blvd (temporary traffic signal)
- Closures and Detours
  - SB Exit 7A (Delaware Ave) closed
  - NB Exit 6 (Maryland Ave) closed
  - MLK Jr Blvd on-ramps to NB/SB closed
  - SR 52 / Adams St on-ramp to NB closed

LEGEND

STAGE 2A WORK AREA

DelDOT Delaware Department of Transportation

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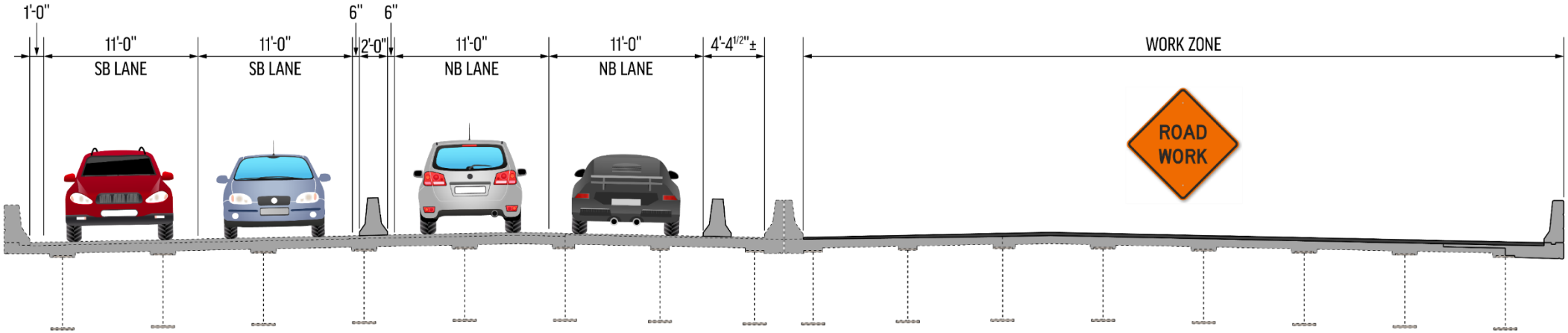
MOT – STAGE 2A

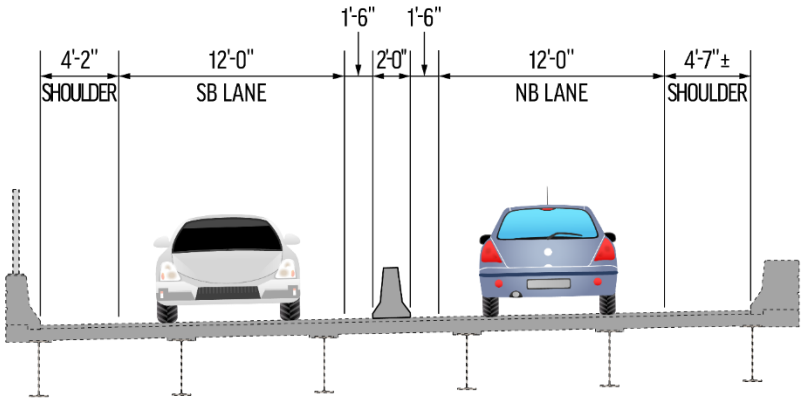
33,000+ feet TCB

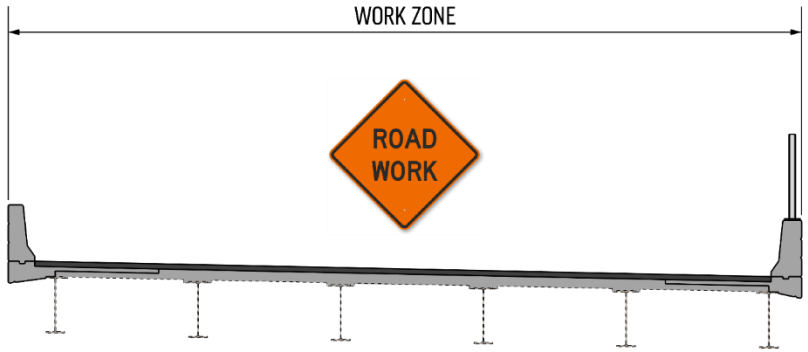
3.5 Mile Work Area

- Construction
  - Bridge work (NB)
  - Deck overlay (NB)
  - Roadway reconstruction (NB mainline and ramps)
- MOT
  - 1 lane closed each direction on I-95 (I-495 to US 202)
  - Temporary crossovers in use
  - Contraflow
    - NB traffic on SB road
    - MLK Jr Blvd on/off ramp
    - MLK Jr Blvd (temporary traffic signal)
- Closures and Detours
  - NB Exit 6 (Maryland Ave) closed
  - SB Exit 7A (Delaware Ave) closed
  - MLK Jr Blvd on-ramps to NB/SB closed
  - SR 52 / Adams St on-ramp to NB closed



SOUTHERN STAGE 2 CONSTRUCTION





NORTHERN STAGE 2 CONSTRUCTION

MOT – STAGE 2B

- Construction
  - Bridge work (NB)
  - Deck overlay (NB)
  - Roadway reconstruction (NB mainline and ramps)
- MOT
  - Same as Stage 2A with modified ramp closures
- Closures and Detours
  - SB Exit 6 (MLK Jr Blvd) closed
  - SB Exit 7A (Delaware Ave) re-opened

I-95 Wilmington Corridor Rehabilitation

MOT – STAGE 3A

39,000+ feet TCB

2.5 Mile Work Area

- Construction
  - Bridge work (SB left side)
  - Deck overlay (SB left side)
  - Roadway reconstruction (SB left side and ramps)
- MOT
  - 1 lane closed each direction on I-95 (I-495 to US 202)
  - Temporary crossovers in use
  - Contraflow
    - SB traffic on NB road

- Closures and Detours
  - SB Exit 7B (Delaware Ave) closed
  - MLK Jr Blvd on-ramps to NB/SB closed
  - SB mainline "CD" lane **(short-term)**

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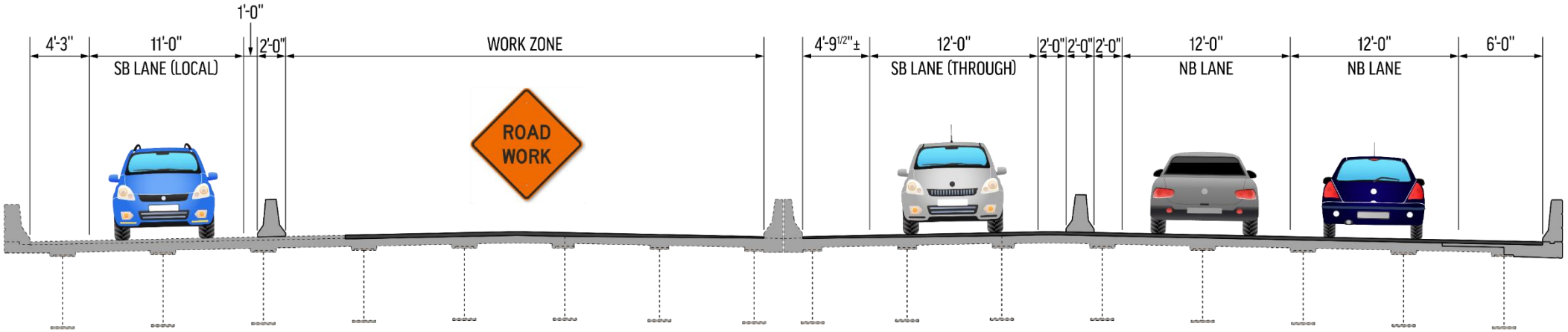
MOT – STAGE 3A

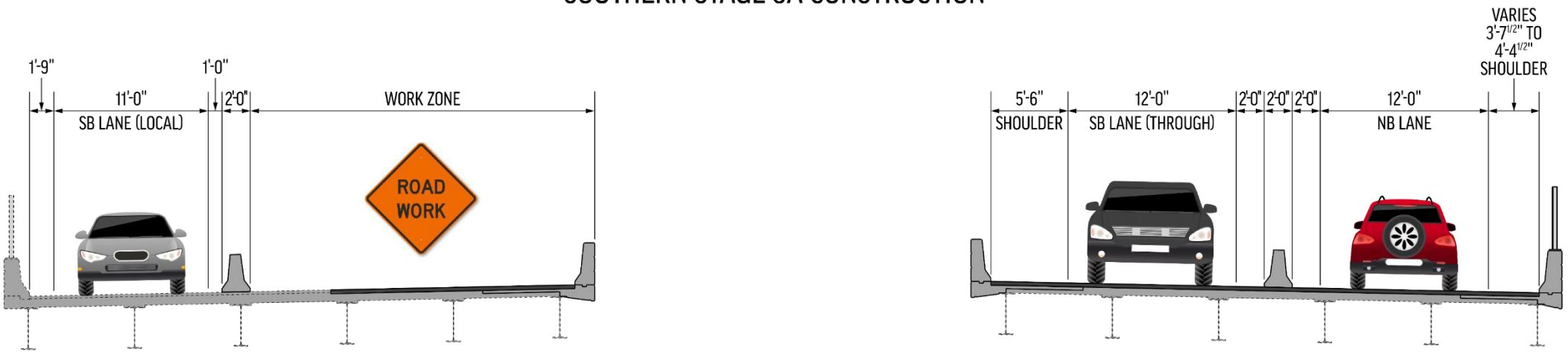
39,000+ feet TCB

2.5 Mile Work Area

- Construction
  - Bridge work (SB left side)
  - Deck overlay (SB left side)
  - Roadway reconstruction (SB left side and ramps)
- MOT
  - 1 lane closed each direction on I-95 (I-495 to US 202)
  - Temporary crossovers in use
  - Contraflow
    - SB traffic on NB road
- Closures and Detours
  - SB Exit 7B (Delaware Ave) closed
  - MLK Jr Blvd on-ramps to NB/SB closed
  - SB mainline "CD" lane **(short-term)**



SOUTHERN STAGE 3A CONSTRUCTION

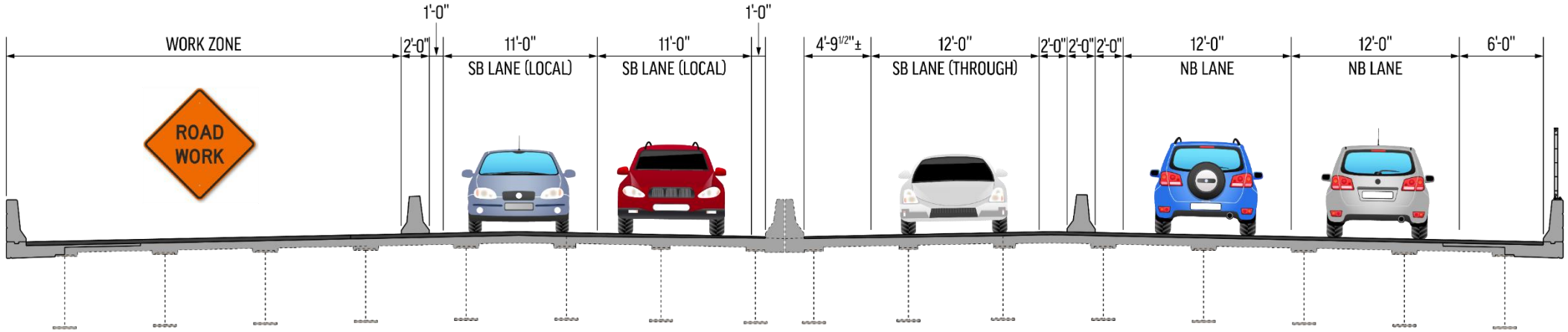


NORTHERN STAGE 3A CONSTRUCTION

MOT – STAGE 3B

- Construction
  - Bridge work (SB right side)
  - Deck overlay (SB right side)
  - Roadway reconstruction (SB right side and ramps)
- MOT
  - 1 lane closed each direction on I-95 (I-495 to US 202)
  - Temporary crossovers in use
  - Contraflow
    - SB traffic on NB road

- Closures and Detours
  - SB Exit 7B (Delaware Ave) closed
  - Adams St / 10th St on-ramp to NB closed
  - MLK Jr Blvd on-ramps to NB/SB re-opened

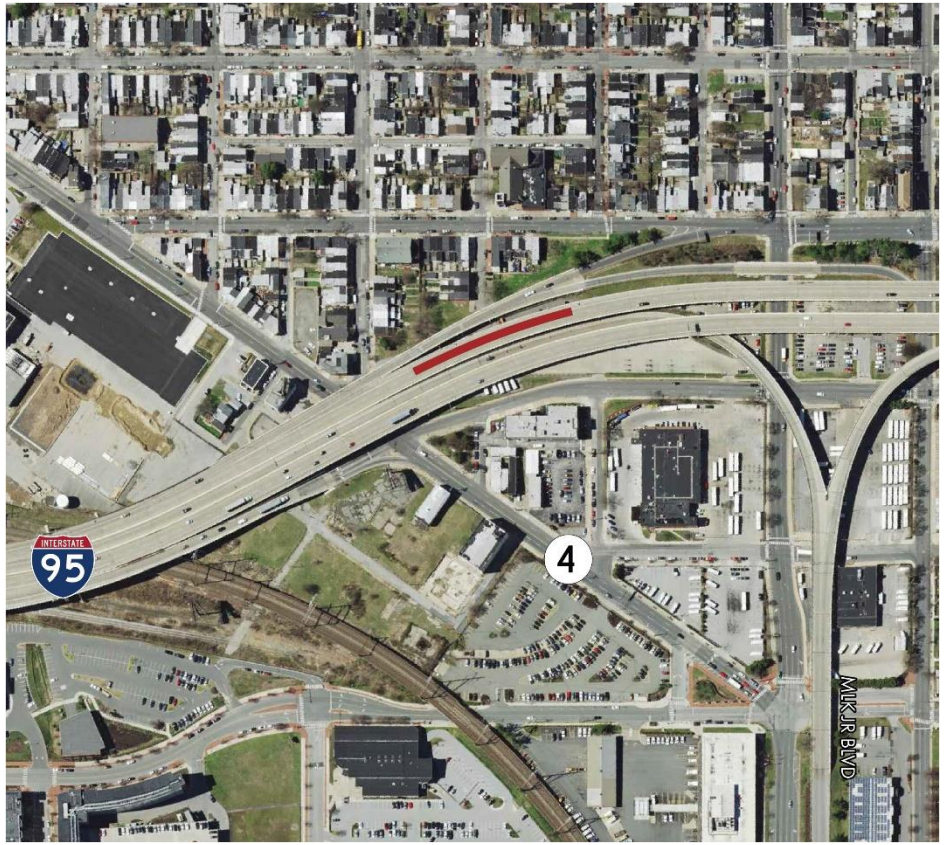


SOUTHERN STAGE 3B CONSTRUCTION

NORTHERN STAGE 3B CONSTRUCTION

MOT – STAGE 3C

- Construction
  - Deck overlay (sub-stage needed to keep new Ramp D open at all times)
- MOT
  - Lane shift and stop condition for Ramp D



LEGEND

STAGE 3C WORK AREA

MOT – STAGE 4

20,000+ feet TCB

0.67 Mile Work Area

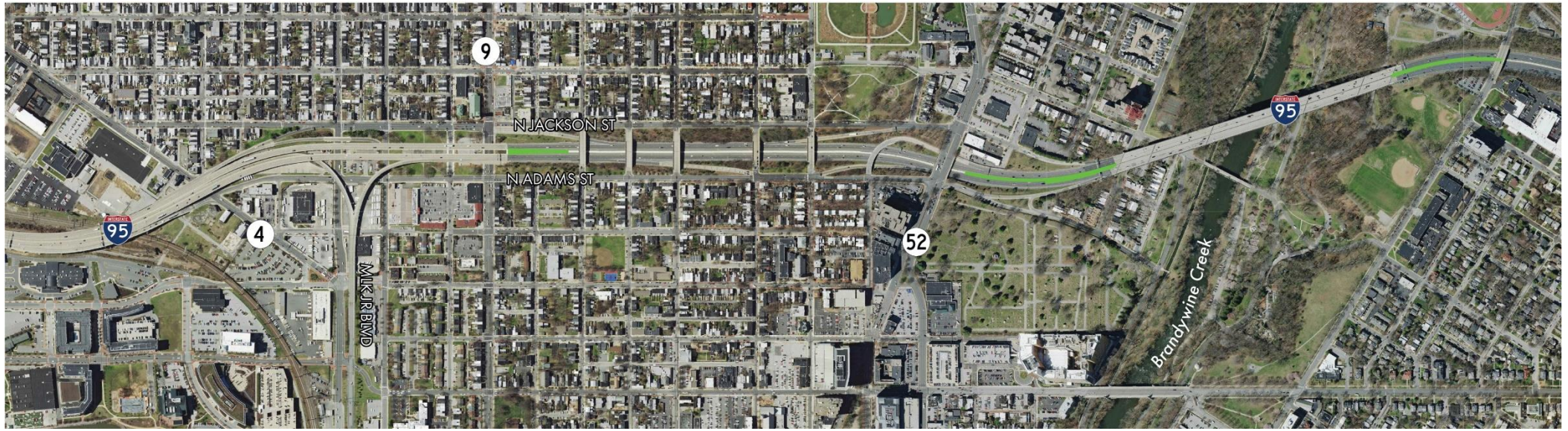
- Construction
  - Remove temporary crossovers
  - Permanent median barrier
- MOT
  - All lanes open SB
  - 1 lane closed NB (Adams St / 10th St on-ramp to north of Brandywine River Bridge)

MOT – STAGE 4

20,000+ feet TCB

0.67 Mile Work Area

- Construction
  - Remove temporary crossovers
  - Permanent median barrier
- MOT
  - All lanes open SB
  - 1 lane closed NB (Adams St / 10th St on-ramp to north of Brandywine River Bridge)



ITMS

- 3 Proposed CCTV
- 3 Proposed RWIS
- ~4 miles (entire project limits) of proposed fiber conduit pathway
  - Drops to all existing and proposed devices along limits
- Typical DelDOT ITMS installation approach
  - Project contractor completes underground infrastructure and foundations
  - DelDOT on-call installs cabling, poles, devices, cabinets

95 Wilmington Corridor Rehabilitation

LIGHTING

- Full lighting system replacement
  - 109 Light Poles
  - 16 Underpass lights
  - All new electrical system
    - 2 Control centers
    - New 3 phase electric services
- Brandywine River Bridge LED Upgrade (36 luminaires)
- Ramp D tie-in

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WRA

95 Wilmington Corridor Rehabilitation

SIGNING

- 3 new overhead sign structures
  - 1 bridge mounted
  - 2 ground mounted
- 7 existing sign structures with modified signs
- 7 existing structures to be removed (not shown)
- Tubular arch design
- Drilled shaft foundations
- Structures built in T201907002 (sign structure breakout)

Existing to Remain ● Contract T201907002 (Sign Structure Breakout) Proposed New Structure ● CMGC Proposed New Structure ● CMGC Modified Signs on Existing Structure ●

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WRA

SIGNING

- 3 new overhead sign structures
  - 1 bridge mounted
  - 2 ground mounted
- 7 existing sign structures with modified signs
- 7 existing structures to be removed (not shown)
- Tubular arch design
- Drilled shaft foundations
- Structures built in T201907002 (sign structure breakout)

Existing to Remain ● Contract T201907002 (Sign Structure Breakout) Proposed New Structure ● CMGC Proposed New Structure ● CMGC Modified Signs on Existing Structure ●

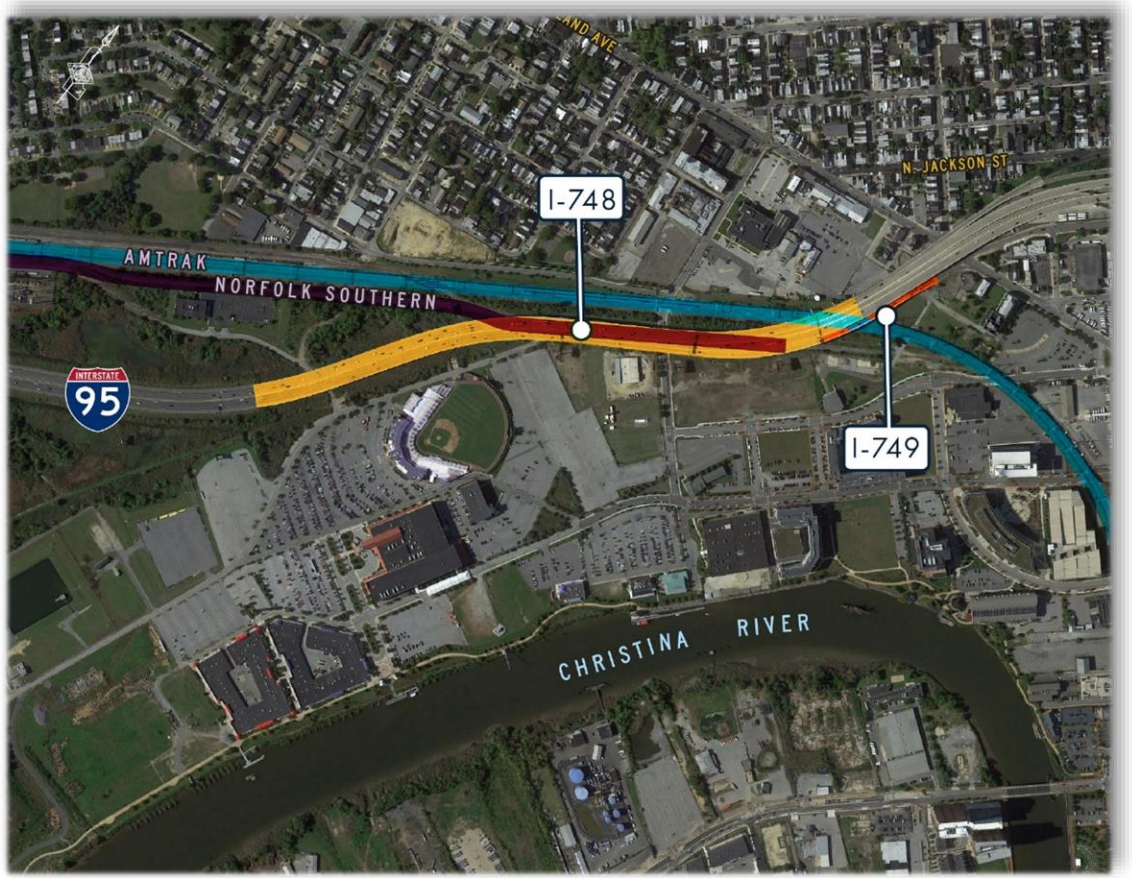
PROJECT RISKS

RISKS

- Risks to the project schedule and budget must be managed
- The CM must work with DelDOT, the Design teamer, and ICE to develop strategies to retire, mitigate, or allocate allowance items to address each Risk item

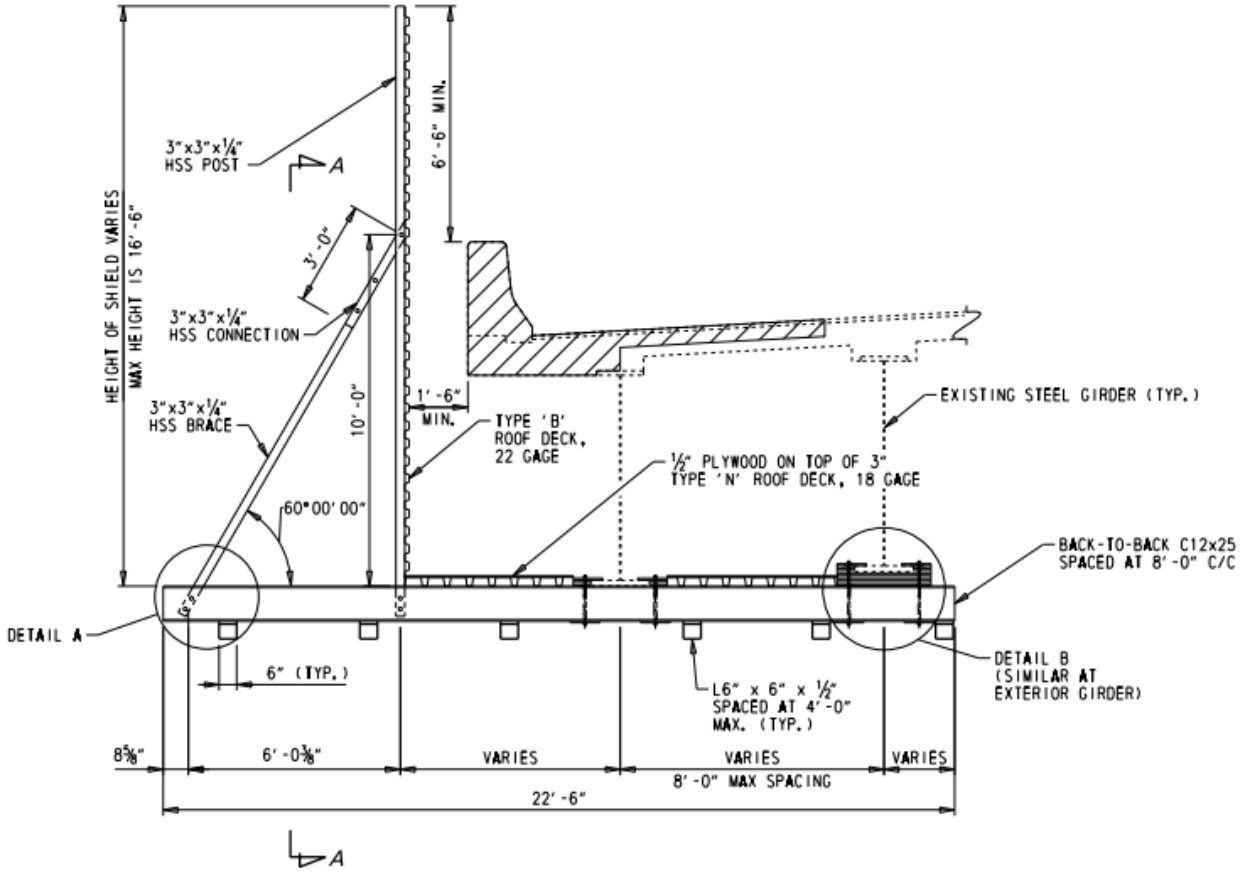
RISKS – RAILROADS

- Bridge Nos. 1-748 and 1-749 are over Norfolk Southern and Amtrak railroads
- N/S Railroad track is a very low volume spur
- Amtrak's Northeast Corridor has 3 active tracks under I-95



RISKS – RAILROADS

- Work over Amtrak and Norfolk Southern
- Demolition shield installation and removal (track time)
- Clearance to Amtrak catenary wires



RAILROAD PROTECTIVE SHIELD - TYPE I

RISKS – RAILROADS

- Risk Reduction Measures:
  - Engineering Agreement in place
  - Kick-off meeting with Amtrak June 2019
  - RFI Process in place
  - Ability to get pre-approval of shop drawings prior to construction

RISKS – DECK CONDITION

- Deck testing was performed in 2014/2015
  - Overlay and structural deck may have incurred additional deterioration
- Risk Reduction Strategy
  - Additional testing to be performed in fall/winter 2019 to re-confirm condition of the structural deck

RISKS – HIGHWAY

- I-95 south of Wilmington Viaduct built on marsh
  - Dewatering
- I-95 north of the Wilmington Viaduct built on rock
  - Pavement box and underdrains
  - Lighting and ITMS conduit installation

RISKS – WILDLIFE

- Migratory Birds BR 1-745
  - Active nests and mating couples cannot be disturbed during breeding season (April 15th – August 1st)

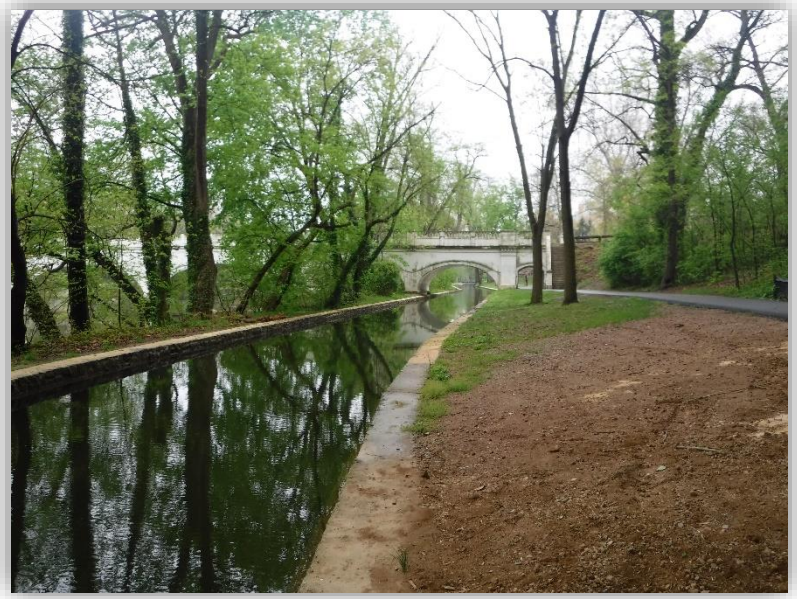
- Possible Risk Mitigation Strategies
  - Bird Netting
  - Work or remove nests outside of breeding season

RISKS - NOISE

- City of Wilmington Noise Ordinance
  - 8:00 am – 7:00 pm Mon. – Fri.
  - 9:00 am – 7:00 pm Sat.
  - 10:00 am – 5:00 pm Sun.
  - Noise waver requests
- Restrictions during local events
  - Blue Rock baseball games
- Prohibited nighttime activities
  - Pile driving
  - Hydrodemolition
  - Jackhammers

RISKS – BR 1-759

- Brandywine Park Impacts
  - Brandywine Creek
  - Raceway adjacent to river
  - Trails and parking lot



AVAILABLE INFORMATION

- The following information will be available on the DelDOT website:
  - This presentation
  - 2015 Design Level Inspection Report including testing data
  - Geotechnical Report
  - Rock Ripability Memo
  - Stormwater Management Report
  - Traffic Management Plan (TMP)
  - Special Provisions
  - VE Study Report
- Additional information is available upon request!

QUESTION AND ANSWER SESSION

I-95 Wilmington Corridor Rehabilitation

SITE WALK

DelDOT Delaware Department of Transportation

WRA